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AECOM

Ongoing Monitoring Report - 2023

PFAS OMP - Swartz Barracks

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Client: Department of Defence

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Prepared by

AECOM Australia Pty Ltd

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Abbreviations

Abbreviation	
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous film forming foam
AHD	Australian height datum
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure 1999 (as amended 2013)
BOM	Bureau of Meteorology
Brymaroo	Brymaroo Satellite Site
CSM	Conceptual site model
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
DQIs	Data quality indicators
DQOs	Data quality objectives
DSI	Detailed site investigation
EC	Electrical conductivity
ERA	Ecological risk assessment
ESA	Environmental site assessment
FTA	Fire Training Area
FFTA	Former Fire Training Area
FTS	Fluorotelomer sulphonate
HEPA	Heads of Environmental Protection Agencies
HHRA	Human health risk assessment
LOR	Limit of reporting
mbgs	Metres below ground surface
MZ	Management zone
NEMP	National Environmental Management Plan
NEPC	National Environment Protection Council
NHMRC	National Health and Medical Research Council
OMR	Ongoing Monitoring Report
OMP	Ongoing Monitoring Plan
ORP	Oxidation reduction potential
PFAS	Per- and poly-fluorinated alkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perflurooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan

Abbreviation	
QA/QC	Quality assurance / quality control
SAQP	Sample analysis and quality plan
SILO	Scientific information for land owners
TDI	Tolerable daily intake
Temp	Temperature
UST	Underground storage tank

Units of Measurement			
L	Litres	m	Metres
mg	Milligram	ha	Hectares
kg	Kilogram	µg	Microgram
mV	Millivolts	µS/cm	Microsiemens per centimetre
mAHD	Metres Australian Height Datum	mBTOC	Metres below top of casing

Executive Summary

Background

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the Ongoing Monitoring Plan (OMP) (Defence, 2019) for monitoring of per- and poly-fluorinated alkyl substances (PFAS) in surface water, sediment and groundwater at Swartz Barracks previously known as Army Aviation Centre Oakey (AACO) (0207) (the 'Base'), and Management Area The off-Base portion of the Management Area is comprised of three separate Management Zones (MZ) (1, 2 and 3). The OMP also includes monitoring at Brymaroo Satellite Site (Brymaroo), located approximately 25 km northwest of Swartz Barracks.

The objective of the monitoring is to assess changes in the nature and extent of PFAS within the environment, where Defence's historical use of aqueous film-forming foam (AFFF) has led to a potentially elevated risk or potential future risk to a receptor.

This Ongoing Monitoring Report (OMR) provides commentary on observed trends, significant first-time detections of PFAS, noteworthy changes in concentrations, and any other observations that have been made with respect to the behaviour and movement of PFAS on the Base and in the Management Area.

Monitoring Program

AECOM completed periodic monitoring of groundwater, surface water and sediment between January and December 2023 in accordance with the version of the sampling analysis and quality plan (SAQP) (AECOM, 2023a) current at the time of sampling. The monitoring included the collection of groundwater, surface water and sediment samples from selected locations on-Base and in surrounding off-Base areas including within and outside the Swartz Barracks Management Area. The monitoring also included the collection of groundwater samples from selected locations at Brymaroo. The data collected during the monitoring period was comparable with historical results with similar groundwater flow directions and PFAS groundwater concentrations.

Interpretive Assessment

Monitoring results indicated that the concentrations of PFAS in groundwater were similar to previous sampling events since 2017. Some pertinent observations are provided below. All results refer to the sum of the compounds perfluorohexane sulfonate (PFHxS) and perfluorooctane sulfonate (PFOS), which are the primary PFAS contaminants at Swartz Barracks and the Management Area:

- Overall, the concentrations of PFAS in groundwater were comparable to previous results, with the highest PFAS concentrations in 2023 being detected at monitoring wells located down-hydraulic gradient of known PFAS source areas identified during previous investigations. The extent of PFAS in groundwater is comparable to that presented in the 2017 Environmental Site Assessment (ESA) (AECOM, 2017a) and subsequent monitoring reports (AECOM, 2018b, 2019a, 2019b, 2020a, 2020b, 2021a, 2021b, 2021c, 2022a, 2022c, 2023b, 2023c), however the first-time detection of PFAS (PFHxS + PFOS) below drinking water in monitoring well MW151 shows that the extent has moved further to the west, down-gradient of Swartz Barracks.
- Statistical trend analysis indicated that most wells have either a stable or decreasing trend in PFHxS + PFOS concentration, with five off-Base wells (MW019, MW021, MW038, MW134, MW262, and four on-Base wells (MW179, MW201, MW249 and MW299) reporting an overall increasing or probably increasing trend. Reported concentrations in the monitoring period in these wells were within the historical range of concentrations reported for these locations.
- Concentrations of PFAS in surface water samples from creek locations and drainage channels within the Swartz Barracks Management Area in March / April 2023 were consistent with concentrations reported in 2020, 2021 and 2022. PFAS concentrations in sediment samples from creeks and drainage channels were consistent with historical results. Sediment samples from drainage channels have reported lower PFOS concentrations since remediation works in 2018.
- At Brymaroo, PFAS concentrations in groundwater in April 2023 in down-gradient locations were similar to concentrations reported in April 2022. The highest PFAS concentrations were recorded for groundwater samples collected from monitoring wells (MW002, MW003 and MW009) close to the areas where AFFF was historically stored and potentially discharged. PFAS was reported

slightly above the limit of reporting (LOR) in samples from two monitoring wells down-gradient of this area to the north (MW005 and MW007) with the remainder of the wells in this area reporting PFAS concentrations below the LOR. PFAS has been detected in the two monitoring wells to the northeast of the infrastructure area, MW010 and MW011, with new maximum PFAS concentrations detected in 2023. As there are no wells northeast of MW010 and MW011, the extent of PFAS in groundwater in this direction is uncertain. Due to the distance to the Base boundary (>400 m), the limited extent of PFAS in groundwater in other directions (<200 m) and the low hydraulic gradient (0.007 m/m) of the Main Range Volcanics aquifer, this data gap is of low importance. Ongoing monitoring will indicate the longer-term trend in PFAS concentrations in groundwater at the location of MW010 and MW011.

Conceptual Site Model (CSM) and Risk Profile

The CSM for Swartz Barracks Management Area was reviewed. Overall, data presented in this report on the primary and secondary PFAS sources (a contaminant that has the potential to cause harm), pathways (a route by which a receptor could be affected by a contaminant) and receptors (something that can be adversely affected by a contaminant such as a person or an ecosystem) does not change the understanding of the CSM. An update of the CSM should consider the potential for a new exposure pathway in the area west of the Management Area and findings from the mass flux study (AECOM, 2023e). Future monitoring will continue to contribute to an evaluation of any potential change to the CSM understanding. The CSM for Brymaroo was reviewed and no changes were identified to sources, pathways or receptors.

Conclusions

PFAS have been detected slightly above the standard laboratory limit of reporting in the furthest monitoring location to the west (MW151) confirming the leading edge of the plume extends beyond the western boundary of the Management Area. This is consistent with the results of solute transport modelling conducted in the 2017 ESA (AECOM, 2017a), which predicted PFAS to migrate in flowing groundwater in a westerly direction over time. Additional monitoring points will be required to provide dedicated groundwater monitoring to the west of MW151. Due to the lack of monitoring wells south of MW038, there is uncertainty in the southern extent of PFAS in groundwater. Defence is considering additional monitoring requirements to address this data gap. Based on the data collected during the current monitoring period, a review of the CSM may need to be undertaken to consider first-time detections of PFAS in areas where not previously identified with any amendments to the Management Area and Management Zones as necessary.

Closing Summary

An ESA and risk assessment were completed by AECOM in 2017 (AECOM, 2017a,b, 2018a). It found that the historical use of foam firefighting products at the Base resulted in widespread PFAS impacts to surface water and groundwater.

Defence completed remediation of the former fire training area (FFTA) in October 2021, and it is no longer a contributor to PFAS movement from the Base via surface water. Remediation works have also been completed at the former fire station and within the three stormwater drains that leave the Base. Other remaining source areas were characterised during the 2021 to 2022 period and a remediation action plan prepared in 2023 for four source areas (AECOM, 2023d). The mass flux study (AECOM, 2023e) demonstrated that PFAS mass discharge from the Base occurs in both groundwater and surface water. Groundwater treatment plant has been ongoing at the Base since 2018 targeting two of the source areas (fire station and current firefighting training ground). Remediation planning was undertaken in 2023 for four source areas (Hot Refuel Area and AFFF Settling Tank (within Area A1), AFFF Storage and Decanting Area (within Area D2), Former Fire Station and Foam Training Area (within Area B3) and Former Fuel Compound and Hot Refuel Area (within Area F1)).

Overall, this OMR has identified a change to the distribution of PFAS in and around the western portion of the Swartz Barracks Management Area. Review of the Management Area and Management Zones and review of risk profile is required to determine if a change to the boundary is warranted. No other significant changes to the distribution of PFAS nor significant concentrations trends in the Management Area were identified by this report. The cessation of PFAS foam use and the remedial works (both planned and completed) will, over time, reduce the amount of PFAS that is available to migrate from the

Base in surface water and groundwater. This will contribute to the long-term reduction of PFAS concentrations in the Management Area.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the Ongoing Monitoring Plan (OMP) (Defence, 2019) for monitoring of per- and poly-fluorinated alkyl substances (PFAS) at Swartz Barracks (formerly known as Army Aviation Centre Oakey) (0207) (the 'Base') Management Area and Brymaroo Satellite Site (Brymaroo), located approximately 25 km northwest of Swartz Barracks. The locations of the Base and Brymaroo are shown in **Figure 1** in **Appendix A**. Site layouts for Swartz Barracks and Brymaroo are shown on **Figure 2** and **Figure 3**, respectively. The Management Area associated with the Base is presented in **Figure 4**, **Appendix A**.

The monitoring targeted PFAS in groundwater, surface water and sediment at selected locations on-Base and in surrounding off-Base areas, including the Swartz Barracks Management Area. The monitoring also included selected locations at Brymaroo.

To meet the objectives of the OMP, the monitoring was undertaken in accordance with the most current version of the sampling analysis and quality plan (SAQP). This Ongoing Monitoring Report (OMR) has been prepared in accordance with the Defence (2022) OMP Annual Interpretive Report Guidance.

1.1 Purpose and Objectives

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

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

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

This data will be evaluated to determine environmental variability and significant trends in PFAS concentrations. This will inform any changes to the conceptual site model (CSM), the known risk profile and triggers for review of the OMP, PFAS Management Area Plan (PMAP) (Defence, 2019)[1], human health risk assessment (HHRA) (AECOM, 2017b) or ecological risk assessment (ERA) documentation (AECOM, 2018a), if required.

1.2 Scope of Work

The scope of works for this OMR includes assessing changes to the distribution of PFAS over the period January to December 2023 and how this changes the understanding of the CSM and the risk profile with respect to PFAS impacts at the Base and surroundings.

This included evaluation of data reported in the following reports:

- *Annual Interpretive Report – 2020, Army Aviation Centre Oakey* (AECOM, 2021).
- *Annual Interpretive Report – 2021, Army Aviation Centre Oakey* (AECOM, 2022a).
- *Ongoing Monitoring Interpretive Report – 2022, PFAS OMP Army Aviation Centre Oakey* (AECOM, 2023c).
- *Sampling Event Factual Report – March-May 2023. PFAS OMP - Army Aviation Centre Oakey* (AECOM, 2023b) (presented in **Appendix F**).

[1] At the time of preparing this OMR, the PMAP was being updated by Defence. The updated version will be issued later in 2024.

- *Sampling Event Factual Report – October 2023. PFAS OMP – Swartz Barracks (formerly known as Army Aviation Centre Oakey)* (AECOM, 2024) (presented in **Appendix F**).
- Data collected as part of the PMAP delivery works including the soil characterisation report (AECOM, 2022b), soil remediation action plan (AECOM, 2023d) and mass flux study (AECOM, 2023e).

The March to May 2023 and October 2023 groundwater, surface water and sediment sampling events were conducted in accordance with the SAQP, Revision 7 (AECOM, 2023a), presented in **Appendix E**.

This report considers monitoring results in the context of the ongoing remediation activities at Swartz Barracks. During the monitoring period, this included the operation of one groundwater treatment plant, which extracted and treated contaminated groundwater from the Former Fire Station and Foam Training Area and Current Fire Training Area (FTA), refer to **Figure 2**, **Appendix A**.

2.0 Site Setting

The subsections below describe the Base and environmental setting for Swartz Barracks (**Section 2.1**) and Brymaroo (**Section 2.2**).

2.1 Swartz Barracks

2.1.1 Site Description

Table 1 summarises the Base identification and site setting presented in the PMAP (Defence, 2019) for Swartz Barracks.

Table 1 Swartz Barracks Identification and Setting Summary

Element	Description
Base ID	0207
Location	Swartz Barracks is located at Orr Road, Oakey and is also bounded by Corfe Road, Oakey Cooyar Road, Wilthorne Kelvinhaugh Road and Oakey Kelvinhaugh Road. Swartz Barracks is located approximately 2 km north-east of the Oakey township and occupies an area of 850 hectares (ha), see **Figure 1**, **Appendix A**.
Regional climate	Based on the Bureau of Meteorology (BOM), Oakey Aero station #041359 dataset (BOM, 2024), the average annual rainfall, from 1970 to 2023, is 618.6 mm/year. The wettest months occur during spring and summer (from October to March, known as the wet season) with relatively dry autumn and winter months (from April to September, known as the dry season). There is variability in the timing of the wet and dry seasons each year. Long-term Oakey scientific information for land owners (SILO) datasets (1970 to 2023) shows average evaporation peaks at 215 mm/month in December and January and is lowest at 68 mm/month in June (Queensland Government, 2023). Potential evapotranspiration peaks at 170 mm/month in December and is lowest at 56.3 mm/month in June. The higher evaporation compared to rainfall indicates a negative climate balance across the Oakey area.
Topography	Swartz Barracks is located on a relatively flat alluvial plain. The regional topography slopes to the west and southwest in the direction of the Oakey and Condamine Floodplains. The elevation of the Base is approximately 400 metres above Australian Height Datum (mAHD). On-Base, inclines have been constructed to grade the drainage system away from the runways. Surface water from the Base drains to the south via a series of unlined drains discharging into Oakey Creek.
Geology and hydrogeology	The geological stratigraphy beneath the MA is presented in **Table 2**. The Oakey Creek Alluvium overlies Main Range Volcanics (variably present) which is underlain by the Walloon Coal Measures. Tectonically, Swartz Barracks and surrounds are situated within the central eastern part of the Clarence-Moreton Basin, which contains sediments of the Late Triassic to Late Jurassic age. The sediments comprise sandstone, siltstone, mudstone, and coal. The Walloon Coal Measures are the uppermost formation of the Clarence-Moreton Basin. Overlying the Clarence-Moreton Basin are extensive areas of unconsolidated younger alluvial sediments such as the Oakey Creek Alluvium and Main Range Volcanics. The main receiving aquifer beneath Swartz Barracks is the Oakey Creek Alluvium aquifer, the base of which is at least 50 metres below ground surface (mbgs). The available data indicates that groundwater occurs in the Oakey Creek Alluvium both as perched aquifers and as a more laterally extensive basal

Element	Description
	aquifer. As the alluvium consists of meandering discontinuous sequences of gravel, sands, silts and clays, the capacity of the alluvium to store and transmit groundwater is variable both vertically and laterally across its extent. These aquifers are unconfined to semi-confined in nature. Further information on the geology and hydrogeology is presented in the environmental site assessment (ESA) (AECOM, 2017a).
Surface water	Stormwater flow at Swartz Barracks is principally from kerb and channel, piped systems, overland flow and open drains. All of Swartz Barracks drainage lines are ephemeral (only flowing during and after rainfall). Swartz Barracks stormwater drainage network consists of approximately 23 km of pipes typically ranging in diameter between 300 mm and 1,200 mm, and approximately 33 km of unlined open drainage lines. Stormwater infrastructure at the Base dates to the 1970s (AECOM, 2017a). The hydrology of Swartz Barracks is split between two major catchments: • Doctor Creek catchment – stormwater runoff in the northern part of the airfield is captured and diverted to Doctor Creek, which is a tributary of Oakey Creek and discharges into Oakey Creek, approximately 14 km downstream from the Base. • Oakey Creek catchment – all operational areas of the Base are located within the Oakey Creek catchment; therefore, all flows entering the stormwater drainage system are directed via the four main drains towards Oakey Creek, located approximately 1 km to the south of the Base. The four main drainage channels are as follows (refer to **Figure 2**, **Appendix A**): • Drainage channel 1: extends from the southwest corner of the airfield, running in a southerly direction, merging with the central drain before discharging to Oakey Creek. • Drainage channel 2: aligned parallel to Orr Road, running in a south-westerly direction from the airfield across the Base and merging with the west drain before discharging to Oakey Creek. • Drainage channel 3: aligned parallel to Swartz Road, running south from the southeastern corner of the airfield across the Base and discharging to Oakey Creek. A portion of stormwater flows from East Drain into a private farm dam, located about 800 m south of the Base. Overflow from the dam returns into the East Drain and discharges into Oakey Creek (AECOM, 2015). • Drainage channel 4: aligned parallel with the eastern Base boundary, running in a southerly direction from the airfield and discharging to Oakey Creek. A weir on Oakey Creek creates a semi-permanent water body that receives and retains runoff from the surface water drains discharging from the Base.
Current and previous land use	The Base is currently used by the Defence Force for Army Aviation and has maintained a role as a military facility since the Base's inception in 1943. The Base currently operates as the Army's helicopter training school for pilots and aviation technicians and is also home to a Republic of Singapore Airforce helicopter squadron. Prior to 1943, the Base had an agricultural use. The northern part of the Base is the airfield, while the southern part of the Base comprises support services, buildings and infrastructure. Approximately 290 ha of the Base are leased for agriculture (western portion of the Base). There are no accommodation facilities currently on Base.

Element	Description
Land uses surrounding the Base	The surrounding land use to the west, north and east is predominantly made up of rural allotments which are utilised for a range of pastoral and agricultural purposes (principally for grain cropping and limited livestock production). Some residential allotments are located immediately adjacent to the southern perimeter of the Base. The nearby township of Oakey comprises residential, light industrial and business/commercial zoned areas. The Warrego Highway and Western Railway Line are located approximately 3 km and 1 km to the south of the Base.

Table 2 Stratigraphy (sourced from AECOM, 2017a)

Period	Unit	Lithology	Geological basin	Hydro-geological basin	Comment
Cenozoic (Quaternary)	Oakey Creek Alluvium	Gravel, sand, silt and clay			Variable thickness, between 20.8 and 75.5 m. The main aquifer for local groundwater extraction.
Cenozoic (Tertiary)	Main Range Volcanics	Alkali-olivine basalt, minor tuff, sandstone and mudstone			Variably encountered with variable thickness. Hydraulic connection with Alluvium.
Mesozoic (Jurassic)	Walloon Coal Measures	Thin-bedded, claystone, shale, siltstone, lithic and sublithic to feldspathic arenites, coal seams and partings, and minor limestone	Clarence-Moreton Basin	Great Artesian Basin	Encountered between 20.8 and 75.5 mbgl. Considered an aquitard. Water within the formation is alkaline and brackish.

2.1.2 Swartz Barracks Management Area

The Swartz Barracks Management Area was established in 2016 (prior to the PMAP) and comprises three zones (see **Figure 4**, **Appendix A**). The HHRA provided precautionary advice for residents within each management zone.

- **Management Zone (MZ) 1:** this zone is located immediately to the south and southwest of the Base. It has the highest perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonate (PFHxS) concentrations in groundwater in the Management Area given its closer proximity to the Swartz Barracks and potential downwards migration of PFAS from surface water in drainage channels 1 and 2.
- **Management Zone 2:** this zone is located further to the south and southwest of the Swartz Barracks. It has higher PFHxS + PFOS concentrations in groundwater in comparison with MZ3 resulting from a combination of impacted groundwater flowing to the south and west from the Base together with downwards migration of PFAS-impacted surface water from the drains leaving the Base.

- **Management Zone 3:** located outside MZ1 and MZ2 and within the remainder of the Management Area. PFAS was not detected by the laboratory in the majority of groundwater samples collected from groundwater monitoring bores in this Management Zone.

2.1.3 Source Areas

The PMAP (Defence, 2019) identified the following locations on-Base as PFAS source areas, which are displayed in **Figure 2**, **Appendix A**:

- Active Primary Potential Source of Contamination
    1. Hot Refuel Area
    2. Spent AFFF Recovery Underground Storage Tank (UST) (Asset A83 within Area A1)
    3. Spent AFFF Recovery UST (Asset S12 within Area S1)
    4. Spent AFFF Recovery UST (Asset C59 within Area C1)
    5. Active AFFF Storage and Decanting Areas (within Area D2)
    6. Active Fire Training Area (Asset D20 within Area D2)
- Depleting Primary Potential Sources of Contamination
    1. Fuel Compound and Hot Refuelling Point
    2. Fire Station and Foam Training Area
    3. Fire Training Area

Ongoing PMAP delivery works including may result in changes to the list of source areas as they are remediated or managed and no longer present an ongoing PFAS source.

The 2017 ESA (AECOM, 2017a) investigated other potential sources of PFAS outside of the Base, including the following:

- Former landfill on Lorrimer Street
- Use of PFAS-impacted water for irrigation
- Areas inundated by PFAS-impacted flood waters.

PFAS-impacted water used for irrigation could be contributing to the PFAS in the underlying groundwater. However, as seepage of PFAS-impacted surface water to the underlying aquifer from farm dams and drains also occurs in the Management Area, the relative contribution of all these processes to PFAS in the underlying groundwater is unclear. The PFAS Mass Flux Study has demonstrated that PFAS mass discharge from the Base occurs in both groundwater and surface water, though groundwater is identified as the primary contributor (AECOM, 2023e).

Available groundwater data indicate a possible correlation between the areas that have been historically flooded and the extent of PFAS within the Oakey Creek Alluvium. The rate at which PFAS-impacted flood water could infiltrate to the underlying groundwater is controlled by:

- Variability in the permeability of surface soils and sediments
- Velocity of the flood waters.

During a flood event, the coarse material (such as sand and gravel) is expected to be deposited on or immediately adjacent to Oakey Creek and finer sediments (silt and clay particles) are transported further with the flood water.

2.2 Brymaroo Satellite Site

The subsections below provide summaries of the Brymaroo Base and environmental setting, environmental investigations to date and the CSM. The layout of Brymaroo is shown in **Figure 3**, **Appendix A**.

2.2.1 Base Description

Table 3 Brymaroo Identification and Setting Summary

Element	Description
Base ID	1435
Location	Brymaroo is located 22 km northwest of Swartz Barracks and 3.5 km southwest of the Brymaroo Township. Refer **Figure 1**, **Appendix A**.
Regional climate	The nearest meteorological station is at Swartz Barracks, see **Table 1**.
Topography, geology and hydrogeology	Brymaroo is at an elevation of approximately 400 mAHD, and slopes to the northeast towards Cain Creek, which is located 250 m to the northeast of the northeastern corner of Brymaroo beyond the northern boundary and flows from east to the west. Cain Creek flows into Myall Creek, approximately 3 km to the north-west of Brymaroo. Myall Creek is a tributary of the Condamine River as displayed in **Figure 1**, **Appendix A**. Brymaroo is directly underlain by Tertiary Main Range Volcanics that consist of alkali-olivine basalt, minor tuff, sandstone and mudstone.
Surface water	Stormwater at Brymaroo is overland generally to the north and towards Cain Creek.
Current and previous land use	The Base is approximately 266 ha in size and is used for training in emergency landings and fire hazard training. Historically, Brymaroo was used for agricultural purposes including grazing and grain production prior to being used as a World War II airfield (AECOM 2018d).
Surrounding land uses	The land surrounding the Base is used for agricultural purposes.

2.2.2 Source Areas

The detailed site investigation (DSI) (AECOM, 2018d) identified the following potential sources of PFAS in the southern area of the Brymaroo Satellite Site in the infrastructure area of the Base, refer to **Figure 3**, **Appendix A**:

- AFFF use at the refuelling concrete pads.
- Release from firefighting infrastructure, discharge events, response to incidents or training.

3.0 Sampling and Analytical Methodology

3.1 Sampling Locations

The sampling events conducted in March-May 2023 and October 2023 included the collection of selected groundwater, surface water and sediment samples from across the Management Area and Brymaroo. On-Base and off-Base groundwater sampling locations at Swartz Barracks are shown in **Figure 5** and **Figure 6** respectively in **Appendix A**[2]. Information on the aquifers relevant to each well is presented in **Table T1**, **Appendix B**. Surface water and sediment sampling locations in the Swartz Barracks Management Area are shown in **Figure 7** in **Appendix A**. Groundwater sampling locations at Brymaroo are shown in **Figure 8**, **Appendix A**.

3.2 Summary of OMP works March - May 2023 and October 2023

A summary of the monitoring works implemented as per the most recent version of the SAQP (AECOM, 2023b) between March and October 2023 is summarised in the subsections below:

3.2.1 March - May 2023 Sampling Event

The March to May 2023 sampling event comprised the following:

- Monitoring works were undertaken on 15 March 2023, between 11 and 20 April 2023 and on 10 May 2023. Supplementary monitoring on the 16 and 23 August 2023 at MW269 and MW151 to confirm the April 2023 results from both wells.
- On-Base sampling of groundwater from 34 monitoring wells in the Oakey Creek Alluvium aquifer between 11 and 13 April 2023.
- Off-Base sampling of groundwater from 20 monitoring wells and 15 residential bores monitoring the Oakey Creek Alluvium aquifer between 13 and 20 April 2023 and 10 May 2023.
- Off-Base sampling of groundwater from seven monitoring wells monitoring underlying aquifer units (Walloon Coal Measures or Main Range Volcanics) at locations across the Management Area between 13 and 19 April 2023 and 10 May 2023.
- Surface water sampling at 19 locations and sediment sampling at 20 locations including drainage channels, Oakey Creek, Doctor Creek and Westbrook Creek on 15 March, 18 and 19 April 2023.
- Sampling of 12 monitoring wells in the Main Range Volcanics aquifer from Brymaroo on 11 and 19 April 2023.

3.2.2 October 2023 Sampling Event

The October sampling event comprised the following:

- Monitoring works were undertaken between 24 and 27 October 2023.
- On-Base sampling of groundwater from 33 monitoring wells in the Oakey Creek Alluvium aquifer.
- Off-Base sampling of five monitoring wells and seven residential bores monitoring the Oakey Creek Alluvium aquifer.
- Off-Base sampling of one monitoring well installed in the Walloon Coal Measures.

3.3 Sampling and Analysis Methodology

Refer to the SAQP (AECOM, 2023a) (**Appendix E**) for the sampling methodology, data quality objectives (DQOs) including quality assurance (QA) and quality control (QC) parameters for field and laboratory programs. Refer to the factual reports (**Appendix F**) for QA/QC discussion and fit for purpose data. The SAQP was reviewed and updated, as required, prior to each monitoring event.

[2] Note that some off-Base sampling locations are not shown for privacy reasons.

3.4 Deviations from SAQP

The works undertaken over the monitoring period complied with the version of the SAQP applicable at the time of the monitoring, with some minor exceptions as detailed in **Section 3.4.1** and **3.4.2**. Deviations from the sampling program specified in the PMAP (Defence, 2019) are documented in the SAQP (AECOM, 2023a).

3.4.1 March - May 2023 Sampling Event

Table 4 lists the deviations from the SAQP (AECOM, 2023a) during this sampling event.

Table 4 Deviations from the SAQP during Sampling Event for March to May 2023

SAQP	March to May 2023 Sampling Event Deviation	Impact on OMP program
Collection of groundwater samples at 96 locations	A total of 88 out of the 96 groundwater samples specified in the SAQP were collected. 1. The groundwater samples from off-Base monitoring wells MW132, MW296 and MW297 were unable to be collected as the stakeholders did not provide access permission. Wells MW242, MW255, and MW279 could not be located and were considered to be either destroyed or buried. Monitoring well MW242 was replaced with MW243. 2. MW264 could not be located and is likely buried. 3. Monitoring wells MW013 could not be located and was buried. 4. Monitoring well MW289 was dry, and a sample could not be collected.	1. Minor. The non-sampling of MW132, MW242, MW255, MW279, MW296, MW297 reduces the spatial coverage of the groundwater monitoring network at locations to the southwest and south of the Base. 2. Minor. The non-sampling of MW264, located close to the Management Area boundary reduces the information on the potential migration of PFAS in groundwater beyond the southwestern boundary. A replacement well is not required at the current time as PFAS have not been detected in groundwater in two upgradient wells (MW149 and MW283). These wells provide sufficient coverage in the southwestern portion of the Management Area. 3. Minor. The non-sampling of MW013 at Brymaroo reduces the spatial coverage of the network and means there is no up-gradient sampling point. 4. Nil: As monitoring well MW289 was dry, there is no information on groundwater quality in the deeper aquifer at this location.
Collection of groundwater samples from monitoring wells using no-purge HydraSleeves™	• Groundwater samples were collected by bailer from MW001, MW005 and MW012 (Brymaroo) due to access being limited to only one day.	Nil: The different sampling technique is not likely to impact the ongoing monitoring program.
Collection of water quality parameters	• Field quality parameters not collected for MW038 (water quality meter was unavailable due to technical issues) and MW242	• Nil: The non-collection of sampling measurements in these wells is of low significance as a large dataset is available for these wells and nearby wells.

SAQP	March to May 2023 Sampling Event Deviation	Impact on OMP program
	(insufficient water volume to collect parameters).	
Laboratory Analysis for PFAS	• Due to a laboratory error, groundwater results for MW008 (Brymaroo) could not be reported. When preparing the sample, the analyst did not remove the duplicate analysis from this sample (which is standard procedure when two or less containers are provided for a sample), which meant all of the available volume was used in the extraction. The internal standards were not added correctly to the sample during extraction so unfortunately none of the results for this sample were able to be used and no extra volume remained for re-extraction.	• Minor: The non-sampling of MW008 at Brymaroo reduces the spatial coverage of the network and means there is no cross-gradient sampling point to the west of the Infrastructure Area.
	• Anomalous results were reported for MW005 (Brymaroo). The primary laboratory investigated the results and identified that sample results for MW005 (Brymaroo) and MW269 were possibly switched in the laboratory. There was insufficient sample volume to reconfirm the sample results. Comparison of historical results for both samples indicated that it was likely samples were switched.	• Nil: MW269 was resampled on 16 August 2023 and the results were consistent with historical results. As the resampling results for MW269 are deemed acceptable for assessment purposes, there is no impact on the program. The April 2023 result for MW269 has been excluded from assessment in this OMR. The sample collected in August 2023 has been used for assessment. Nil: MW005 was not resampled as duplicate (QC112) and triplicate samples (QC212) were collected, enabling analysis of the location in this OMR. The result for MW005 was excluded from assessment with the results for duplicate and triplicate samples used. There was no impact on the program.
	• Due to a first-time detection of PFAS in the sample from MW151, the bore was resampled on 16 August 2023.	• Minor: PFOS was detected in the sample collected from MW151 on 16 August 2023, which verified the first-time detection of PFAS in the sample collected on 17 April 2023.
Collection of sediment samples from	• Two co-located surface water and sediment sampling locations were inaccessible due to dense vegetation and private property fencing. No	• Nil: The non-sampling at these locations is of lower significance as downstream data are available at all these locations.

SAQP	March to May 2023 Sampling Event Deviation	Impact on OMP program
22 sampling locations.	samples were collected for SW059/SD045 and SW032/SD032. The surface water sample from SW065 (drainage channel 1 on-Base) was not collected as the location was dry.	Sampling of these locations will be attempted in the next scheduled sampling event.

3.4.2 October 2023 Sampling Event

Table 5 lists the deviations from the SAQP (AECOM, 2023a) during this sampling event.

Table 5 Deviations from the SAQP during October 2023 Sampling Event

SAQP	October 2023 Sampling Event	Impact on Ongoing Monitoring Program
Collection of groundwater samples at 48 locations	A total of 46 out of the 48 groundwater samples specified in the SAQP were collected. 1. Monitoring well MW264 could not be located and is likely to be buried under sediment. 2. Monitoring well MW242 was destroyed.	1. Minor: The non-sampling of MW264 reduces information on the potential migration of PFAS in groundwater in the Oakey Creek Alluvium aquifer in the southwestern portion of the Management Area. A replacement well is not required at the current time as PFAS have not been detected in groundwater in two upgradient wells (MW149 and MW283). These wells provide sufficient coverage in the southwestern portion of the Management Area. 2. Minor: As monitoring well MW242 was destroyed, there is no information on groundwater quality in the Oakey Creek Alluvium aquifer adjacent to the southwestern corner of the Base.
Collection of groundwater samples from monitoring wells using no-purge HydraSleeves™	• The groundwater sample from monitoring wells MW232, was collected using a bailer due to the water column not being sufficient for a Hydrasleeve™ to be installed.	• Nil: The different sampling technique is not likely to impact the ongoing monitoring program.

3.5 Groundwater Monitoring Well Cover Repairs

On 11 April 2023, a drilling contractor conducted repairs to the following monitoring well covers that were damaged: MW001, MW002 and MW003 (all Brymaroo) and MW276, MW278, MW288 and MW289. Further details are provided in the sampling event factual report for March to May 2023 in **Appendix F**. None of these repairs are considered to have affected data integrity as the standpipe were not disturbed. Resurvey of the wells was not undertaken as the standpipe used for groundwater level measurements were not disturbed.

4.0 Quality Assurance and Quality Control

Data validation pertaining to the data in this report has been previously completed and discussed within the individual factual reports listed below:

- *Sampling Event Factual Report – March-May 2023. PFAS OMP - Army Aviation Centre Oakey* (AECOM, 2023b).
- *Sampling Event Factual Report – October 2023. PFAS OMP – Swartz Barracks (formerly known as Army Aviation Centre Oakey)* (AECOM, 2024).

Quality assurance and quality control issues identified for the March–May 2023 sample event are detailed below. No quality assurance and quality control issues were identified for the October 2023 sample event.

- Two QA/QC issues were identified in the analytical laboratory dataset. The quality assurance sample set for MW005 (Brymaroo) showed differences with the primary sample reporting first-time detections of PFHxS and PFOS, while PFAS were not detected in the duplicate and triplicate samples (QC112 and QC212). An investigation was conducted by ALS and the laboratory identified that it was possible the sample bottles for MW005 and MW269 were switched during the extraction process. As there was no volume remaining to re-extract and confirm the results, the laboratory was not able to amend the results and confirm the error. Due to this uncertainty, results for both samples were disregarded from the dataset. Monitoring well MW269 was resampled on 16 August 2023 and no issues were identified with this sample and it was suitable for data assessment purposes and has been included in the assessment for this report (refer to results presented in **Table T2** in **Appendix A**). MW005 (Brymaroo) was not resampled as duplicate and triplicate results were available (refer to results presented in **Table T2** in **Appendix A**). The duplicate and triplicate results from MW005 have been included in the assessment for this report.
- Results for groundwater sample (1435_MW008 [Brymaroo]) could not be reported due to a laboratory error handling of the sample as described in **Table 4**.
- Due to the first-time detection of PFAS in the sample from MW151, the bore was resampled on 16 August 2023. PFOS was detected in the second sample, verifying the first-time detection.

Other than the above issues impacting the three samples identified for the March-May 2023 sampling event and August 2023 supplementary sampling, the data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results in the two sampling events were representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of the factual and interpretive reports.

All data collected from the 2023 sampling events including the field parameter results, have been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018, amended 2021) requirements, in particular, Annex L Guidance on Data Management. Refer to the sampling event factual reports in **Appendix F** for further information.

5.0 Assessment Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), (Heads of Environmental Protection Agencies (HEPA), 2020), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. At the time of preparing this report, several guidance documents were available in Australia including:

- PFAS NEMP, Version 2.0 (HEPA, 2020).
- Department of Health, 2019. Health Based Guidance Values for PFAS for use in site investigations in Australia. September 2019. (DoH, 2019).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on PFAS in Recreational Water. August 2019 (NHMRC, 2019).
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013).

The adopted PFAS screening criteria used to assess the data generated as part of the Ongoing Monitoring Program are presented in **Table 6** below.

Table 6 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking water - groundwater	PFHxS + PFOS	0.07 µg/L	The drinking water values are from the PFAS NEMP Version 2.0 (HEPA, 2020) which are based on values derived by DoH (2019). *All groundwater results were compared to these criteria.*
	Perfluorooctanoic acid (PFOA)	0.56 µg/L	
Recreational use – surface water	PFHxS + PFOS	2 µg/L	The values are from PFAS NEMP Version 2.0 (HEPA, 2020), which are based on revised values derived by NHMRC (2019). *All surface water results were compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (99% species protection values)	PFOS	0.00023 µg/L	The values are from the PFAS NEMP Version 2.0 (HEPA, 2020). For the purposes of preliminary screening of analytical water results, the standard laboratory limit of reporting were adopted rather than sole use of the criteria value. *All surface water results were compared to these criteria.*
	PFOA	19 µg/L	

It is noted that at the time this report was prepared, no HEPA-endorsed criteria were available for PFAS in sediment.

6.0 Contextual and Ancillary Information

Defence is undertaking a range of management activities at Swartz Barracks to remove PFAS from the environment and limit PFAS migration pathways. These are described in the subsections below based on information provided by Defence.

6.1 Historical Activities (2018-2023)

6.1.1 Drain Excavation and Off-Base Disposal

In 2018 Defence excavated sediment from open drains at Swartz Barracks to reduce the migration of PFAS contamination from the sediment to surface water and groundwater. Approximately 12,000 m^3 of sediment was excavated and disposed of in an off-Base disposal facility in accordance with Queensland guidelines. The sediment was replaced with new material. See **Figure 2**, **Appendix A** for the location of the drainage channels. The impact of these remediation activities on sediment concentrations is further discussed in **Section 8.3.3**.

6.1.2 Soil Remediation at the Former Fire Station

Between 2018 and 2019 the area of the former fire station was redeveloped with a new Air Traffic Control Tower built. PFAS contaminated soil excavated during the construction of the foundations of the new building was treated prior to off-Base disposal in accordance with Queensland guidelines. The location of the former fire station is shown on **Figure 2**, **Appendix A**. The impact of these remediation activities on groundwater concentrations is further discussed in **Section 8.2.1.1.2**.

6.1.3 Soil Remediation at the Former Fire Training Area

Between April and November 2021 soil remediation activities were conducted at the FFTA in the north area[3] in accordance with the remediation action plan (WSP, 2019). The objective of the remediation was to reduce to the extent practicable the mass of PFAS in soil at the former fire training area **(Figure 2**, **Appendix A**). The remediation works included the excavation of approximately 4,600 m^3 of PFAS contaminated soils from varying depths (between 0.3 and 1.5 metres below ground level) across the sources area followed by stabilisation and landfill disposal (GHD, 2022). The excavation was infilled with benign material that was compacted in a manner so that it acts as a low permeability layer that restricts rainfall infiltration into residual contamination in underlying soils. The impact of these remediation activities on groundwater concentrations is further discussed in **Section 8.2.1.1.1**.

6.1.4 Water Treatment Plants

Historically, two water treatment plants (WTPs) have operated at Swartz Barracks, one WTP was operated by ECT2 Pty Ltd (ECT2) and utilised anionic resin technology, and the other WTP was operated by OPEC Systems Pty Ltd (OPEC) which used surface-active foam fractionation technology, noting:

- The OPEC WTP has treated groundwater extracted down-gradient of the Current FTA. The WTP commenced operations in 2019.
- The ECT2 system, operated between 2018 and 2022 and treated groundwater extracted from the Former Fire Station and Foam Training Area.

In 2021/2022, Defence upgraded the capacity of the OPEC WTP so that this plant now treats up to 4 litres per second, or 2.4 million litres per week, i.e. has the capacity to treat more PFAS impacted groundwater than was being treated when both plants were in operation. As a result, the ECT2 WTP located at the Former Fire Station was decommissioned in 2022.

[3] The former fire training area was referred to as a depleting source area in the ESA (AECOM, 2017a) to reflect the fact that AFFF was used during historical activities and this use was not ongoing. Source areas where AFFF use is currently occurring are referred to as active source areas. The AFFF currently in use in the active source areas does not contain PFOS, PFHxS and PFOA as active ingredients. The source area location map (**Figure 2** in **Appendix A**) identifies the depleting and active source areas.

6.1.5 PMAP Delivery

A multi-year program of work was commenced in 2020 and was completed in December 2023. The program included targeted soil investigation (AECOM, 2022b) at six source areas to characterise the nature and extent of contamination in soil at these locations. Based on the findings, a soil remediation action plan was developed in 2023 for four of the source areas (AECOM, 2023d). A PFAS Mass Flux Study (AECOM, 2023e) was also completed in 2023 to assess the mass of PFAS leaving the Base through groundwater and surface water drainage channels.

6.2 Current Activities

During the monitoring period one water treatment plant was in operation (refer to **Section 6.2.1**). An array of PMAP delivery document were prepared in 2023 as part of the PMAP Delivery project (refer **Section 6.2.2**). These are described below.

6.2.1 Water Treatment Plant

The OPEC WTP system was upgraded in 2021/2022 (refer to **Section 6.1.4**) and is now treating groundwater extracted from both the Former Fire Station and Foam Training Area as well as the Current FTA. Following treatment, the water is irrigated for infiltration.

6.2.2 PMAP Delivery

PMAP Delivery documents completed in 2023 included:

- PFAS Mass Flux Interpretive Report (AECOM, 2023e)
- Rainfall Event Sampling Results - December 2021 (Sampling Event #5) and February 2022 (Sampling Event #6 and Sampling Event #7) (AECOM, 2023h)
- PFAS Soil Remedial Action Plan (AECOM, 2023d), Groundwater Remedial Action Plan Data Gap Review (AECOM, 2023i), Soil Remediation Technical Specification (AECOM, 2023f), Soil Remediation and Validation SAQP (AECOM, 2023g) for the following source areas:
  - Hot Refuel Area and AFFF Settling Tank (within Area A1)
  - AFFF Storage and Decanting Area (within Area D2)
  - Former Fire Station and Foam Training Area (within Area B3).
  - Former Fuel Compound and Hot Refuelling Area (within Area F1)
- PFAS Remedial Action Plan High Level Estimated Delivery and Cost Schedule for the four source areas outlined above (AECOM, 2023j).

6.3 Current and Future Planned Activities

Construction projects that are currently occurring or are planned at Swartz Barracks potentially requiring management of PFAS contaminated soil are identified in **Table 7** below. This information was provided by the Environmental Sustainability Manager for Swartz Barracks in February 2024. The construction projects listed below are likely to have involved the management of very minor volumes of soil containing PFAS.

Table 7 Summary of Current and Planned Activities at Swartz Barracks

Manage-ment	Projects	Details	Locality of Project	Potential to remove minor volumes of soil	Contractor	Dates
Capital Facilities and Infra-structure	EST02089 A9066 Mid Term Refresh	Construction phase. Various electrical and communications upgrade works across the base and demolition of redundant buildings.	Base wide	Possible	FKG	04/21 – 20/12/2023
	EST04122 P1005 - Airfield Maintenance Works Program	Asphalt resurfacing	Runway	None	Fulton Hogan	6/11/2023 to 15/12/2023
	SPO-ADP-033/036	Oakey HVAC Upgrades - B045, B046, B060, B079, C068 & S002	Various builings	None	NRG	22/5/2023 to 22/5/2024
	SPO-ADP-079	Oakey Hangar door Replacements - C003, C004, C005	Hangars	None	FKG	5/9/22 to 4/9/2023
PDS Support	EST06163 P0012 - Airfield Maintenance	Asphalt resurfacing and new drainage.	Runway	None	GHD	In design as of 05/22
	EST08212 - Oakey Roads & Carpark Resurfacing	Resurfacing of the remaining 50% of the main carpark. Refurbishment of the main base roads.	Roadways	None	McIlwain	Construction date 07/23
	EST06178 - RCD Remediation QLD	Replacement and upgrades of switchboards and distribution boards to current standards to residual current devices.	Various buildings	None	Hutchinsons	30/08/2021 to 11/12/2023
	EST09304 - Combined Mess Refurbishment 0207/A021	Undertake maintenance refurbishment to 70 bedrooms. Remove built-in furniture and replace with loose, lounge and desk, remove and replace vanity unit, lighting and all floor coverings.	A021	None	JLL Augility	6/11/2023 to TBA
	EST08486 - Oakey D002 Refurbishment 207/D002	End of life building refurbishment including asbestos remediation works	D002	None	Aurecon	07/22- 16/06/2023

Manage-ment	Projects	Details	Locality of Project	Potential to remove minor volumes of soil	Contractor	Dates
	EST09409 - Swartz Barracks Oakey L121 Pavements	Widening of vehicle gates to facilitate movement of HX77 and trailer combinations.	Gates	None	Shamrock Civil	26/05/2023 to TBA
	EST08098 - Oakey Propeller Shed Refurbishment	Carry out full refurbishment including painting of amenities, ablutions and administration areas.	Buildings	None	JLL Augility	11/08/2022 to 19/05/2024
	EST08465 - Oakey Swimming Pool	Refurbishment of male and female ablutions and upgrades to ancillary facilities.	Buildings	None	Duratec	19/04/2022 to 2/03/2024

6.4 Weather Conditions

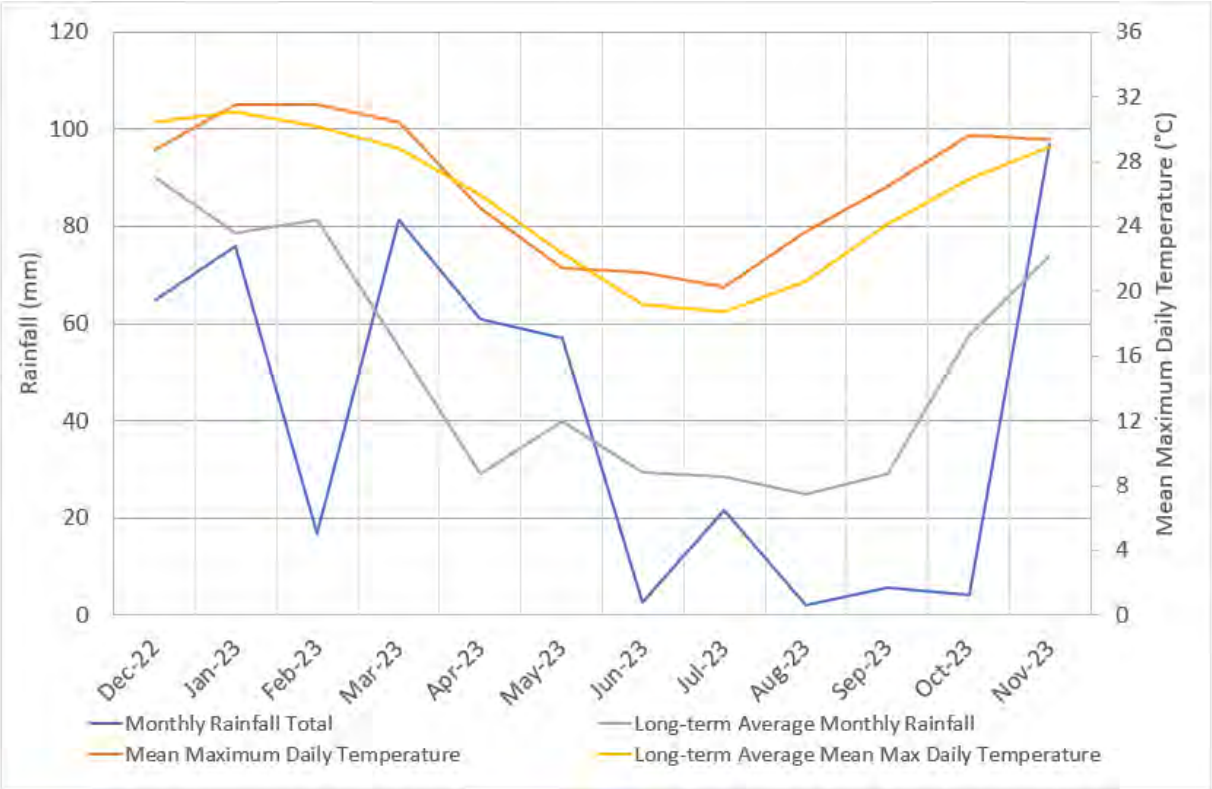
Table 8 summarises the rainfall received during the monitoring period compared to the average rainfall as recorded between 1973 and 2023 (BOM, 2024). This information is shown on **Chart 1**.

Table 8 Rainfall During Monitoring Period

Sampling Event	Rainfall recorded at Weather station 041359 (mm) – December 2022 to November 2023	Average Rainfall 1973 to 2023 (mm)
December 2022	64.8	90.0
January 2023	76.0	78.6
February 2023	16.8	81.4
March 2023	81.2	55.3
April 2023	61.0	29.1
May 2023	57.0	40.0
June 2023	2.6	29.3
July 2023	21.6	28.5
August 2023	2.0	25.0
September 2023	5.6	29.0
October 2023	4.2	57.7
November 2023	97.0	73.9
Total	489.8	617.8

The total rainfall during the monitoring period was approximately 20% lower than average and occurred later in the year (mostly between March and May 2023) compared to the long-term average (November to February). The rainfall recorded in March, April, May and November 2023 was higher than the monthly long-term average however all other months recorded less than average rainfall for the remaining months within the monitoring period.

Chart 1 Monthly Rainfall and Mean Maximum Daily Temperature at Swartz Barracks During the Monitoring Period



7.0 Monitoring Data Summary

7.1 Groundwater

7.1.1 Groundwater Elevations

Groundwater elevations recorded during monitoring well gauging for the sampling events are summarised in **Table 9** below with full results presented in **Table T1**, **Appendix B**. The range in groundwater elevations in the Oakey Creek Alluvium aquifer in the two sampling events were similar. As only one well gauged in October 2023 is screened in the Walloon Coal Measures there is insufficient data to evaluate temporal changes in the monitoring period. Likewise, gauging data for Main Range Volcanics at Brymaroo is only available for one sampling period so temporal changes in groundwater elevation during the monitoring period cannot be evaluated.

Table 9 Depth to Groundwater and Groundwater Elevation

Base	Aquifer	Event	Range in hydraulic head (mAHD)	Range in depth to water (mBTOC)	No of wells gauged
Swartz Barracks	Oakey Creek Alluvium	Apr-23	386.628 to 402.802	2.731 to 14.898	55
		Oct-23	386.374 to 402.060	3.473 to 14.514	40
	Walloon Coal Measures	Apr-23	366.455 to 395.055	7.782 to 37.400	7
		Oct-23	368.544	33.414	1
Brymaroo	Main Range Volcanics	Apr-23	406.000 to 408.458	8.631 to 10.565	12

7.1.2 Groundwater Flow Directions

7.1.2.1 Swartz Barracks

Inferred groundwater contour maps for Swartz Barracks (Oakey Creek Alluvium aquifer) for the monitoring periods were presented in the Sampling Event Factual Reports (AECOM, 2023b and 2024) and are presented as **Figure 9** and **Figure 10** in **Appendix A**. The inferred groundwater contours for the Oakey Creek Alluvium aquifer for the monitoring periods were similar with the general groundwater flow direction from east to west across the Management Area. Groundwater in the Oakey Creek Alluvium aquifer is inferred to flow in a westerly direction across Swartz Barracks, while in off-Base areas to the south, the flow direction is inferred to be in a north westerly direction. The groundwater flow directions are consistent with previous years (e.g. AECOM, 2021, 2022a, 2023c).

Based on the limited groundwater elevation data for the Walloon Coal Measures, the groundwater flow direction is inferred to be towards the west.

7.1.2.2 Brymaroo

The inferred groundwater contour map for the April 2023 sampling event at Brymaroo (**Figure 11**, **Appendix A**) indicated that the horizontal gradient in the Main Range Volcanics was relatively flat with flow directed from the infrastructure area to the northwest and west which has some consistency with the previous monitoring events in 2020 (AECOM, 2021) and 2021 (AECOM, 2022a).

7.1.3 Groundwater Quality Parameters Field Measurements

7.1.3.1 Swartz Barracks

A summary of the water quality parameters in the different aquifer units measured during sample collection at Swartz Barracks in March-May 2023 and October 2023 are presented in **Table 10** and

Table 11. The full results are presented in **Table T1**, **Appendix B** and in the Sampling Event Factual Reports in **Appendix F**.

Table 10 Groundwater Quality Parameter Field Measurements in Groundwater from the Oakey Creek Alluvium at Swartz Barracks

Parameter	Event	No. of samples	Minimum	Maximum	Mean
DO (mg/L)	Mar-May 23	68	0.27	4.57	1.73
	Oct-23	45	0.57	6.46	2.59
	Historical results		0.23	6.59	1.98
EC (µS/cm)	Mar-May 23	68	398	6,540	2,340
	Oct-23	45	536	8,977	2,861
	Historical results		201	10,532	2,551
pH	Mar-May 23	68	6.62	7.82	7.11
	Oct-23	45	6.62	7.73	7.04
	Historical results		6.36	11.24	7.23
ORP (mV)	Mar-May 23	68	215	420	319
	Oct-23	45	-16.7	353	195
	Historical results		21.5	380	295
Temp (°C)	Mar-May 23	68	15.7	30.2	21.6
	Oct-23	45	18.8	38.8	24.7
	Historical results		17.8	28.1	23.0

Notes: DO is dissolved oxygen, EC is electrical conductivity, ORP is oxidation reduction potential, Temp is temperature.

Table 11 Groundwater Quality Parameter Field Measurements in Groundwater from the Walloon Coal Measures at Swartz Barracks

Parameter	Event	No. of samples	Minimum	Maximum	Mean
DO (mg/L)	Mar-May 23	7	0.39	1.91	0.84
	Oct-23	1	2.84	N/A	N/A
	Historical results		0.27	2.03	1.07
EC (µS/cm)	Mar-May 23	7	840	4,247	2,069
	Oct-23	1	1,359	N/A	N/A
	Historical results		228	3,270	1,844
pH	Mar-May 23	7	7.54	11.97	9.86
	Oct-23	1	11.4	N/A	N/A
	Historical results		7.57	12.13	9.73
ORP (mV)	Mar-May 23	7	23	395	242
	Oct-23	1	226	N/A	N/A
	Historical results		-21.7	303	218
Temp (°C)	Mar-May 23	7	18.1	22.4	20.9
	Oct-23	1	22.4	N/A	N/A
	Historical results		16.1	23.3	20.2

Notes: N/A is not applicable

Based on the mean groundwater quality parameter results over the sampling period, the aquifer units at Swartz Barracks can be characterised as follows:

- **Oakey Creek Alluvium** is near neutral (>pH 6, <pH 8), poorly (<~1 mg/L) to moderately oxygenated (>1, <4 mg/L DO), moderately reducing (0-400 mV) and brackish (>1500 µS/cm EC).
- **Walloon Coal Measures** is alkaline (>pH 8), poorly oxygenated (<~1 mg/L DO), moderately reducing (0-400 mV) and brackish (>1500 µS/cm EC).

The aquifer parameters recorded in these sampling events are consistent with previous results (AECOM, 2017a, 2018b, 2019a, 2019b, 2021, 2022a, 2023c). There were no visual or olfactory observations of contamination during the sampling of monitoring wells at Swartz Barracks with the exception of LNAPL present in monitoring well MW193.

7.1.3.2 Brymaroo

The water quality parameter results for groundwater at Brymaroo in April 2023 are summarised in **Table** 12 with the full results presented in **Table T1**, **Appendix B**.

Table 12 Groundwater Quality Parameter Field Measurements in Groundwater from the Main Range Volcanics at Brymaroo in April 2023

Parameter	No. of samples	Minimum	Maximum	Mean
DO (mg/L)	12	0.37	2.72	1.10
Historical results		0.04	3.36	0.76
EC (µS/cm)	12	136	2,457	1,382
Historical results		874	2467	1560
pH	12	6.69	11.60	7.68
Historical results		6.74	10.93	7.68
ORP (mV)	12	245	380	349
Historical results		118	377	296
Temp (°C)	12	17.1	21.0	20.1
Historical results		20.4	27.3	23.3

Based on the mean groundwater parameter results, the Main Range Volcanics aquifer beneath Brymaroo can be characterised as near neutral (>pH 6, <pH 8), poorly oxygenated (~<1 mg/L), moderately reducing (0-400 mV ORP) and fresh (<1500 µS/cm EC) to brackish (>1500 µS/cm EC). This is consistent with previous observations (AECOM 2018d, 2019b, 2021, 2022a and 2023c). There were no visual or olfactory observations of contamination during the sampling of monitoring wells at Brymaroo.

7.2 Groundwater Analytical Results

A summary of analytical results from the Ongoing Monitoring Program works during the monitoring period is provided in **Table 13** below. Further information is presented in the OMP sampling event factual reports provided in **Appendix F**.

Groundwater laboratory PFAS analytical results collected at the Base since 2013 are presented in **Table T2** in **Appendix B** for Swartz Barracks and **Table T3** in **Appendix B** for Brymaroo.

Table 13 Summary of PFAS in Groundwater During the Monitoring Period

Sampling Event	No. of Locations Analysed	Compound	Concentration Range (µg/L)	No. of Sample Locations with Concentration > LOR
March - May 2023 (Swartz Barracks)	76	PFOS	<0.01 – 234	60
		PFOA	<0.01 – 41.5	45
		PFHxS + PFOS	<0.01 – 704	59
October 2023 (Swartz Barracks)	46	PFOS	<0.01 – 575	42
		PFOA	<0.01 – 62.4	34
		PFHxS + PFOS	<0.01 – 1,500	43
April 2023 (Brymaroo)	12	PFOS	<0.01 – 12.3	7
		PFOA	<0.01 – 2.27	6
		PFHxS + PFOS	<0.01 – 29.4	8

Table 14 presents details of the first-time detections of PFHxS + PFOS and PFOA or new exceedances of guidelines during the two sampling events and new maximum and new minimum concentrations.

Table 14 Summary of First-time Detections, New Guideline Exceedances, and New Minimum and Maximum Values for PFHxS + PFOS and PFOA

Sampling Event	Compound	Groundwater					
		First-time detections	New exceedances of drinking water guidelines	New maximum concentrations		New minimum concentrations	
				New in 2023	Historical	New in 2023	Historical
April 2023 (Swartz Barracks)	PFHxS + PFOS	MW151 (0.03 µg/L)	None	On-Base: MW207 (2.15 µg/L) MW299 (277 µg/L) MW563 (16.7 µg/L)	On-Base: MW207 (1.35 µg/L) MW299 (177 µg/L) MW563 (0.11 µg/L)	On-Base: MW193 (24.1 µg/L) MW562 (0.2 µg/L)	On-Base: MW193 (24.3 µg/L) MW562 (9.42 µg/L)
				Off-Base: MW021 (6.85 µg/L) MW122 (6.17 µg/L) MW262 (0.71 µg/L) MW266 (8.48 µg/L) MW282 (2.1 µg/L)	Off-Base: MW021 (6.33 µg/L) MW122 (3.3 µg/L) MW262 (0.62 µg/L) MW266 (7.52 µg/L) MW282 (1.64 µg/L)	Off-Base: MW294 (0.75 µg/L)	Off-Base: MW294 (0.81 µg/L)
	PFOA	None	None	On-Base: MW207 (0.09 µg/L) MW563 (0.74 µg/L)	On-Base: MW207 (0.07 µg/L) MW563 (0.01 µg/L)	On-Base: MW222 (1.36 µg/L) MW223 (5.18 µg/L) MW562 (0.02 µg/L)	On-Base: MW222 (1.7 µg/L) MW233 (6.07 µg/L) MW562 (0.55 µg/L)
				Off-Base: MW122 (0.15 µg/L) MW262 (0.04 µg/L) MW266 (0.39 µg/L)	Off-Base: MW122 (0.1 µg/L) MW262 (0.03 µg/L) MW266 (0.34 µg/L)	Off-Base: MW281 (0.17 µg/L) MW294 (0.05 µg/L)	Off-Base: MW281 (0.2 µg/L) MW294 (0.13 µg/L)
	PFOS	None	None	On-Base: MW205 (7.54 µg/L) MW207 (0.69 µg/L) MW249 (0.19 µg/L) MW299 (234 µg/L) MW563 (0.5 µg/L)	On-Base: MW205 (6.17 µg/L) MW207 (0.42 µg/L) MW249 (0.18 µg/L) MW299 (107 µg/L) MW563 (0.01 µg/L)	On-Base: MW230 (0.48 µg/L) MW235 (4.27 µg/L) MW562 (0.03 µg/L)	On-Base: MW230 (0.974 µg/L) MW235 (4.38 µg/L) MW562 (0.39 µg/L)
				Off-Base: MW021 (4.93 µg/L) MW122 (4.18 µg/L) MW266 (4.72 µg/L) MW290 (0.03 µg/L)	Off-Base: MW021 (4.48 µg/L) MW122 (1.69 µg/L) MW266 (3.88 µg/L) MW290 (0.02 µg/L)	Off-Base: None	Off-Base: None
October 2023	PFHxS + PFOS	None	None	On-Base: MW204 (1500 µg/L) MW207 (2.26 µg/L) MW563 (19.4 µg/L)	On-Base: MW204 (1300 µg/L) MW207 (2.15 µg/L)	On-Base: MW193 (19.6 µg/L)	On-Base: MW193 (24.1 µg/L)

Sampling Event	Compound	Groundwater					
		First-time detections	New exceedances of drinking water guidelines	New maximum concentrations		New minimum concentrations	
				New in 2023	Historical	New in 2023	Historical
(Swartz Barracks)					MW563 (16.7 µg/L)		
				Off-Base: MW038 (1.24 µg/L)	Off-Base: MW038 (1.11 µg/L)	Off-Base: None	Off-Base: None
	PFOA	None	None	On-Base: MW201 (11.7 µg/L) MW204 (62.4 µg/L) MW563 (0.88 µg/L)	On-Base: MW201 (11.4 µg/L) MW204 (44.2 µg/L) MW563 (0.74 µg/L)	On-Base: None	On-Base: None
				Off-Base: None	Off-Base: None	Off-Base: None	Off-Base: None
	PFOS	None	None	On-Base: MW204 (575 µg/L) MW205 (10.5 µg/L) MW207 (0.84 µg/L) MW563 (1.06 µg/L)	On-Base: MW204 (304 µg/L) MW205 (7.54 µg/L) MW207 (0.69 µg/L) MW563 (0.5 µg/L)	On-Base: MW193 (8.65 µg/L) MW187 (0.22 µg/L) MW232 (2.87 µg/L)	On-Base: MW193 (11.0 µg/L) MW187 (0.274 µg/L) MW232 (4.54 µg/L)
				Off-Base: MW038 (0.84 µg/L)	Off-Base: MW038 (0.77 µg/L)	Off-Base: None	Off-Base: None
April 2023 (Brymaroo)	PFHxS + PFOS	None	None	On-Base: None	On-Base: None	On-Base: None	On-Base: None
				Off-Base: MW011 (0.23 µg/L)	Off-Base: MW011 (0.13 µg/L)	Off-Base: MW012 (0.02 µg/L)	Off-Base: MW012 (3.76 µg/L)
	PFOA	None	None	On-Base: None	On-Base: None	On-Base: None	On-Base: None
				Off-Base: MW010 (0.15 µg/L) MW011 (0.02 µg/L)	Off-Base: MW010 (0.11 µg/L) MW011 (0.01 µg/L)	Off-Base: MW012 (<0.01 µg/L)	Off-Base: MW012 (0.24 µg/L)
	PFOS	None	None	On-Base: None	On-Base: None	On-Base: None	On-Base: None
				Off-Base: MW001 (0.11 µg/L)	Off-Base: MW001 (0.1 µg/L)	Off-Base: MW012 (<0.01 µg/L)	Off-Base: MW012 (1.08 µg/L)

There was one first-time detection of both PFHxS (0.01 µg/L) and PFOS (0.02 µg/L) in groundwater during the March-May 2023 monitoring round , recorded at off-site residential bore MW151. The detections are slightly above the laboratory LOR (0.01 µg/L) and the first-time PFAS has been detected in groundwater outside of the Management Area. The results were verified through resampling of the location in August 2023, which reported PFOS (0.02 µg/L). The October 2023 event also reported 0.02 µg/L PFOS. There were no new exceedances of drinking water guidelines.

Out of the 124 groundwater samples collected from Swartz Barracks Management Area, 95 exceeded the NEMP (HEPA, 2020) human health drinking water guideline value for sum of PFHxS + PFOS with 30 groundwater samples exceeding the PFOA guideline value.

102 groundwater samples from Swartz Barracks Management Area exceeded the limit of reporting for PFOS and therefore exceeded the NEMP (HEPA, 2020) ecological guideline for PFOS for 99% protection of freshwater ecosystems. Two groundwater samples exceeded the NEMP (HEPA, 2020) PFOA ecological guideline value. The concentrations reported are consistent with the historical results for the previous monitoring wells, and the detections are not considered a deviation from the historical dataset.

Groundwater sample results for PFHxS + PFOS and PFOA in groundwater are presented in the following figures in **Appendix A**:

- **Figure 12** - PFHxS + PFOS Concentrations in Groundwater in Oakey Creek Alluvium and Main Range Volcanics at Swartz Barracks Oakey in April 2023
- **Figure 13** - PFOA Concentrations in Groundwater in Oakey Creek Alluvium and Main Range Volcanics at Swartz Barracks Oakey in April 2023
- **Figure 14** - PFHxS + PFOS Concentrations in Groundwater in Oakey Creek Alluvium and Main Range Volcanics at Swartz Barracks Oakey in October 2023
- **Figure 15** - PFOA Concentrations in Groundwater in Oakey Creek Alluvium and Main Range Volcanics at Swartz Barracks Oakey in October 2023
- **Figure 16** - PFHxS + PFOS Concentrations in Groundwater in Walloon Coal Measures at Swartz Barracks Oakey in April 2023
- **Figure 17** - PFOA in Groundwater in Walloon Coal Measures at Swartz Barracks Oakey in April 2023
- **Figure 18** - PFHxS + PFOS Concentrations in Groundwater in Main Range Volcanics at Brymaroo in April 2023
- **Figure 19** - PFOA Concentrations in Groundwater in Main Range Volcanics at Brymaroo in April 2023

Statistical analysis of PFOS, PFHxS + PFOS, and PFOA using the Mann-Kendall methodology was conducted on the groundwater dataset for monitoring wells and residential bores included within the ongoing monitoring program, where data are suitable for evaluation. The results of the statistical analyses are presented in **Appendix C**.

Historical groundwater concentrations of PFHxS + PFOS have been displayed graphically on temporal trend graphs by area of interest in **Appendix D** for the locations shown in **Table 15**. Off-Base areas of interests have been categorised into portions of the Management Area consistent with interpretative analysis in **Section 8.2.1.2**.

Table 15 Temporal Trend Graph by Area of Interest

Graph ID	Area of Interest	Groundwater monitoring well
Chart D1	On-Base: Source Areas	MW167, MW193, MW230, MW232, MW236, MW253, MW299, MW562
Chart D2	On-Base: Former Fire Station	MW185, MW201, MW202, MW203, MW204, MW205
Chart D3	Off-Base: < 1 km of Southern Base Boundary (cross-gradient)	MW020, MW031, MW032, MW132, MW268
Chart D4	Off-Base < 1 km Southwestern Corner of Swartz Barracks (down-gradient of source areas)	MW021, MW022, MW028, MW113, MW122, MW157, MW257, MW266, MW276, MW296
Chart D5	Off-Base: 1 – 2 km of Southwestern Corner of Swartz Barracks (at further distance down-gradient of source area)	MW006, MW019, MW038, MW107, MW134, MW255, MW262, MW272
Chart D6 / D7	Brymaroo	MW001, MW002, MW003, MW004, MW005, MW006, MW007, MW008, MW009, MW010, MW011, MW012, MW013

7.3 Surface Water Results

7.3.1 Surface Water Quality Parameter Field Measurements at Swartz Barracks

Surface water quality parameters field measurements were measured prior to collecting surface water samples. The readings from the March – May 2023 sampling event are presented in **Table T4**, **Appendix B** and in the sampling event factual report in **Appendix F**. A summary of the water quality parameters in the different creeks are presented in **Table 16**.

Table 16 Summary of Surface Water (Creeks and Drainage Channels) Quality Parameter Field Measurement Results

Parameter	Unit	Oakey Creek (n = 7)		Doctor Creek (n = 1)	West-brook Creek (n= 1)	Drainage Channel Samples (n= 10)	
		Range	Mean	Result	Result	Range	Mean
pH	-	7.68 – 8.34	8.04	7.68	8.21	6.74 – 8.05	7.57
Historical results		6.8 – 8.58	7.66	7.71 – 7.95	8.32 – 9.18	7.28 – 8.92	7.97
Temperature	ºC	20.2 – 26.3	23.9	20.4	23.7	22.4 – 34.9	26.4
Historical results		19.7 – 28	22.9	28.9 – 29	21.1 – 21.7	18.1 – 28.9	24.6
Dissolved Oxygen	mg/L	3.71 – 5.75	4.79	4.33	5.37	0.2 – 5.19	2.37
Historical results		1.62 – 8.55	4.33	6.74 – 8.71	8.87 – 8.94	0.68 – 14.78	5.83
Redox Potential	mV	210 – 303	260	298	268	193 – 294	249
Historical results		208 – 340	300	208 – 290	293 – 302	106 – 348	220
Electrical Conductivity	µS/cm	293 – 972	662	409	1,044	82 – 1790	316
Historical results		169 – 1,302	536.5	444 – 450	1,016 – 1,127	94.8 – 349.9	190

Note: N=number

Based on the averaged results the creek water can be characterised as slightly alkaline(~pH 8), moderately oxygenated (1-4 mg/L DO), mildly reducing (220-400 mV ORP) and fresh (<1500 µS/cm EC) to brackish (>1500 µS/cm EC). The drainage channel water can be characterised as slightly alkaline, low oxygenated (<2 mg/L DO), moderately oxidising (200-400 mV ORP) and fresh (<1550 µS/cm EC). These results are broadly consistent with previous results (AECOM, 2017a, 2018b, 2019a, 2019b, 2021, 2022a, 2023c).

7.3.2 Surface Water Analytical Results

Surface water analytical results for March - May 2023 are included in **Table T5** in **Appendix B** and monitoring activities are summarised in the March - May 2023 sampling event factual report in **Appendix F.** A summary of surface water analytical results is provided in **Table 17** below. **Table 18** provides a summary of new maximum and minimum concentrations in surface water during the monitoring period.

Table 17 Summary of PFAS in Surface Water During the Monitoring Period

Sampling Event	No. of Locations Analysed	Compound	Concentration Range (µg/L)	Historical range (µg/L)	No. of Sample Locations with Concentration > LOR
March / April 2023 (Swartz Barracks)	19	PFOS	<0.01 – 2.87	<0.0003 – 6.26	14
		PFOA	<0.01 – 1.54	<0.0005 – 15.5	9
		PFHxS + PFOS	<0.01 – 3.23	<0.0003 – 6.89	14

Table 18 Summary of New Maximum and Minimum Concentrations in Surface Water during March – May 2023 sampling event

Sampling event	No. of locations analysed	Compound	First-time detection / new exceedance of guidelines	New maximum concen-trations	New minimum concen-trations	Historical Range
March / April 2023 (Swartz Barracks)	19	PFOS	None	SW063 (1.04 µg/L)	None	SW063 (0.139 to 0.69 µg/L)
		PFOA	None	None	SW026 (<0.02 µg/L)	SW026 (0.02 to 0.13 µg/L)
		PFHxS + PFOS	None	SW019 (1.11 µg/L)	None	SW019 (0.24 to 1.07 µg/L)

There were no new exceedances of the recreational water guideline value or first-time detections of PFHxS + PFOS and PFOA in surface water samples during the monitoring period. New maximum concentrations for PFOS and PFHxS + PFOS were reported at SW063 and SW019, respectively. A new minimum concentration for PFOA was reported at SW026. Surface water sample results from March – May 2023 are presented in **Figure 20** (PFHxS + PFOS) and **Figure 21** (PFOA) in **Appendix A**. Historical surface water concentrations of PFOS have been displayed graphically on temporal trend graphs, see **Chart D8** and **Chart D9** in **Appendix D**.

7.4 Sediment Analytical Results at Swartz Barracks

Sediment samples were co-located and collected with surface water samples during the March to May 2023 sampling event. PFAS analytical results for sediment are presented in **Table T6** in **Appendix B. Figure 22** (PFHxS + PFOS) and **Figure 23** (PFOA) in **Appendix A** show the distribution of PFAS in the Management Area. Monitoring activities are summarised in the March - May 2023 sampling event factual report (AECOM, 2023b) in **Appendix F**. A summary of sediment analytical results is provided in **Table 19** below with a summary of first-time detections presented in **Table 20**.

Table 19 Summary of PFAS in Sediment During the Monitoring Period

Sampling Event	No. of Locations Analysed	Compound	Concentration Range (mg/kg)	Historical range (mg/kg)	No. of Sample Locations with Concentration > LOR
March / April 2023 (Swartz Barracks)	20	PFOS	<0.0004 – 0.073	<0.0002 – 3.68	19
		PFOA	<0.0002 – 0.0119	<0.0002 – 1.05	5
		PFHxS + PFOS	<0.0002 – 0.0806	<0.0002 – 3.68	19

Table 20 Summary of First-time Detections and new Maximum and Minimum Values for PFHxS + PFOS, PFOA and PFOS in Sediment

Sampling Event	Compound	Sediment first-time detection	New maximum concentrations	New minimum concentrations	Historical Range
March / April 2023	PFOS	None	SD038 (0.0021 mg/kg) SD070 (0.0011 mg/kg) SD036 (0.0119 mg/kg)	SD011 (0.0131 mg/kg)	SD038 (0.0006 to 0.0017 mg/kg) SD070 (<0.0002 to 0.0007 mg/kg) SD036 (0.0002 to 0.0114 mg/kg) SD011 (0.0156 to 0.4610 mg/kg)
	PFOA	None	SD106 (0.0016 mg/kg)	None	SD106 (<0.0002 to 0.0013 mg/kg)
	PFHxS + PFOS	None	SD070 (0.0011 mg/kg)	SD011 (0.0138 mg/kg) SD036 (0.0126 mg/kg)	SD070 (<0.0002 to 0.0007 mg/kg) SD011 (0.0156 to 0.4610 mg/kg) SD036 (0.0002 to 0.0114 mg/kg)

New maximum concentrations detected in 2023 (summarised in **Table 20**) are within the same order of magnitude as historical results, except SD070 which reported 0.0011 mg/kg for both PFOS and PFHxS + PFOS slightly above the historical maximum of 0.0006 mg/kg.

8.0 Interpretive Analysis

8.1 Hydrogeology

8.1.1 Swartz Barracks

The inferred groundwater flow directions for the Oakey Creek Alluvium aquifer at Swartz Barracks Management Area are shown in **Figure 9** and **Figure 10**, **Appendix A**. The contours and flow direction are consistent with the regional groundwater flow direction (east to west) and the elevations observed in previous investigations (AECOM, 2016a, 2017a, 2018b, 2019a, 2019b, 2021, 2022a and 2023c).

8.1.2 Brymaroo

The inferred groundwater contour map for the April 2023 sampling event at Brymaroo (**Figure 11**, **Appendix A**) indicated that the horizontal gradient in the Main Range Volcanics was relatively flat (0.007 m/m) with flow directed from the infrastructure area to the northwest (towards Cain Creek) which has some consistency with the previous monitoring events in 2020 (AECOM, 2021) and 2021 (AECOM, 2022a).

8.2 Groundwater Results

8.2.1 PFAS in Groundwater at Swartz Barracks

Groundwater results for PFHxS + PFOS and PFOA compared to assessment criteria for the Oakey Creek Alluvium / Main Range Volcanics and Walloon Coal Measures at Swartz Barracks are presented in **Figure 12** to **Figure 17** in **Appendix A**.

PFAS concentrations were similar to previous historical results undertaken since the ESA (AECOM, 2017a). Temporal changes in PFHxS + PFOS and PFOA concentrations have been evaluated using Mann Kendall in **Appendix C** and in graphs that are presented in **Appendix D**.

The Mann Kendall analysis presented in **Appendix C** was used to evaluate the trends in the concentrations in groundwater and whether they have a monotonic upward or downward trend. Variables such as groundwater elevation in response to rainfall, which influence PFAS concentrations were not factored into the analysis.

The significance of these trends is determined by the confidence factor, or p value, of the analysis, as follows.

- A confidence factor over 95% indicates that there is an ‘increasing’ or ‘decreasing’ trend.
- A confidence factor over 90% indicates the there is a ‘probably increasing’ or ‘probably decreasing’ trend.
- A confidence factor less than 90% indicates ‘stable’ or ‘no trend’.

Where concentrations were reported below the LOR, a value equal to 50% of the LOR has been used. As per the PFAS OMP Interpretive Report Guidance (Defence, 2022), statistical analysis using Mann Kendall has only been undertaken on datasets which have a minimum of eight data points and where more than 20% of results exceed the LOR.

A summary of the Mann-Kendall results is presented in **Table 21**.

Table 21 Summary of Mann-Kendall Statistical Analysis: PFHxS + PFOS

Location	Bores with an increasing or probably increasing trend	Bores with a stable trend /no trend	Bores with a decreasing trend
On-Base			
Former fire training in North area		MW253, MW254	
Former fire station in area B3	MW201	MW202, MW203, MW204, MW205	
AFFF storage area / D20 appliance testing within area D2		MW221, MW232	MW222, MW230
Former Fuel compound and hot refuel point in area F1	MW249	MW235, MW241	MW236
AFFF recovery tank in A2 / hot refuel area		MW172, MW173	
AFFF recovery tank in S1	MW299	MW300	
AFFF setting tank in C1		MW206, MW223, MW229	MW193, MW198
On-Base Boundary Bores (Oakey Creek Alluvium)	MW179	MW174, MW178, MW189	MW167, MW187, MW242, MW245, MW252
Off-Base			
<1 km of southern Base boundary		MW268, MW032*	MW257
<1 km of south-western corner of Swartz Barracks			
1-2 km of southwestern corner of Swartz Barracks	MW021*, MW134*, MW262	MW255, MW272	
>2 km to the west and southwest of Swartz Barracks	MW019*, MW038*		
South-east of Swartz Barracks			
>1 km of Swartz Barracks to the south		MW056*, MW285	
Northeast of Swartz Barracks		MW265	
Underlying aquifers (to south, southwest and west of Base)		MW269, MW293	

Note: * indicates residential bore

Overall, most wells, where statistical analysis was completed, show groundwater PFHxS + PFOS concentrations had either a stable trend, no trend or a decreasing trend. Ten wells in on-Base and off-Base areas of Swartz Barracks have PFHxS + PFOS concentrations with an increasing, or probably increasing, trend. Wells with an increasing trend are discussed further in the following subsections.

The statistical trend analysis for PFOA also indicated increasing trends for MW021, MW113, MW122, MW179, MW201, MW232, MW249, MW262, MW272 and MW299. The statistical trend analysis for PFOS indicated increasing trends at MW113, MW122, MW134, MW179, MW205, MW249, MW255, MW262, MW272 and MW299.

8.2.1.1 On-Base

The highest PFAS concentrations in the two sampling events of 2023 were detected in monitoring wells located down-hydraulic gradient of the source areas on-Base. PFHxS + PFOS concentrations in groundwater in selected wells near potential on-Base source areas are shown in **Chart D1** (multiple source areas) and **Chart D2** (former fire station) in **Appendix D**.

8.2.1.1.1 Former Fire training area (in North Area)

PFHxS + PFOS concentrations in groundwater at the former firefighting training area ranged between 25 µg/L and 121 µg/L in MW253 between 2017 and 2021. A second well, MW254 recorded concentrations between 1.59 and 31.8 µg/L in the same period. This source area was remediated in 2021 (refer to **Section 6.1.3**) resulting in the decommissioning of MW253 and MW254, with two replacement monitoring wells installed in February 2022 (MW562 and MW563).

Following remediation, relatively lower concentrations of PFHxS + PFOS concentrations have been observed at MW562/MW563 compared to groundwater results from the previous wells (MW253/MW254). The decrease in PFHxS + PFOS concentrations may be attributed to the remediation of the source area. Further temporal monitoring data are required to confirm the trend.

8.2.1.1.2 Former fire station in B3

PFHxS + PFOS trends in groundwater at the former fire station are presented in **Chart D2** in **Appendix D**. Due to the range in concentrations, results for this source area have been plotted on a logarithmic scale. Mann-Kendall analysis indicated an increasing trend for PFHxS + PFOS concentrations in MW201 with 44 µg/L reported in March 2017 and 139 µg/L reported in October 2023. Extraction of groundwater to remove PFAS has been ongoing in this area since 2018 and may affect the concentrations detected. MW201 is located up-gradient of the extraction bore and is likely to be outside of the extraction zone of influence. Wells MW202, MW203 and MW204 had noticeable decreases in PFAS concentrations following commencement of the extraction and treatment operations in 2019, although subsequent concentrations from 2020 through to 2023 have stabilised. This is supported by the Mann-Kendall analysis which indicates overall, since 2019, PFAS in groundwater in MW202, MW203, MW204 and MW205 have shown stable or no trends. As there is no ongoing release of PFAS to ground at this source area, PFAS concentrations in underlying groundwater would be expected to be stable or decrease.

8.2.1.1.3 AFFF Storage Area / D20 appliance testing within area D2

No groundwater samples for Area D2 had an increasing trend based on Mann-Kendall statistical analysis. Groundwater samples collected from MW221, MW222, MW230, MW232 in Area D2 have shown decreasing, stable or no trend for PFHxS + PFOS concentrations from Mann-Kendall statistical analysis (refer to **Table 21**). **Chart D1** in **Appendix D** which displays MW230 and MW232. There is ongoing remediation of groundwater using foam fractionation technology in this area and the stable or decreasing may reflect the ongoing remediation works.

8.2.1.1.4 Former Fuel compound and hot refuel point in area F1

PFHxS + PFOS concentrations in samples from MW236, located close to the former fuel compound and hot refuel area in Area F1 have maintained a decreasing trend with 2.6 µg/L in October 2023 compared to historical maximum of 25.9 µg/L in October 2021. PFHxS + PFOS trends for MW236 are presented in **Chart D1** in **Appendix D**. This was confirmed by the Mann-Kendall statistical analysis (refer to **Table 21**) which indicated MW236 has a decreasing trend. PFHxS + PFOS concentrations in two other nearby wells, MW235 and MW241 have shown a stable or no trend based on the Mann-Kendall analysis. No remediation or infrastructure works have occurred at this source area.

Mann-Kendall statistical analysis indicated MW249, located west and down-gradient of the PFAS source of the former fuel compound and hot refuel point in area F1, as having a PFHxS + PFOS trend that was 'probably increasing'. A PFHxS + PFOS concentration of 4.4 µg/L recorded in April 2023 compared to 2.7 µg/L in April 2022. Both concentrations are within the same order of magnitude. Ongoing monitoring will establish if there is an increasing trend at MW249 due to the transport of PFAS from up/cross gradient source areas.

8.2.1.1.5 AFFF recovery tank in A2 / hot refuel area

PFHxS + PFOS at MW172 and MW173 in Area A2 have shown a stable or no trend (refer **Table 21**).

8.2.1.1.6 AFFF recovery tank in area S1

The dataset indicated variability in PFHxS + PFOS concentrations at MW299 close to the source area (spent AFFF recovery UST (Asset S12 in Area S1)) between 2016 and 2023 which is displayed in **Chart D1** in **Appendix D**. The PFHxS + PFOS concentrations at MW299 changed from 177 µg/L in October 2022 to a new maximum of 277 µg/L in April 2023 and then returned to 163 µg/L in October 2023. Mann-Kendall statistical analysis (**Table 21**) indicated MW299 as having a PFHxS + PFOS trend that was 'probably increasing'. Ongoing monitoring will establish if the increase in MW299 is temporary. This change was not observed in nearby well MW300, which has shown a stable trend for PFHxS + PFOS concentrations based on Mann-Kendall analysis.

8.2.1.1.7 AFFF Settling tank in area C1

PFHxS + PFOS analytical results for groundwater samples collected from MW193 and MW198 in Area C1 have shown decreasing concentrations based on Mann-Kendall statistical analysis (refer to **Table 21**). The PFHxS + PFOS concentrations at MW193 are shown in **Chart D1** in **Appendix D**. Other groundwater samples in Area C1 include MW206, MW223 and MW229 and have shown a stable or no trend (refer **Table 21**).

8.2.1.1.8 On-Base boundary

Mann-Kendall statistical analysis (refer to **Table 21**) indicated MW179, located adjacent to the southern Base boundary had a PFHxS + PFOS trend that was 'probably increasing', with 6.3 µg/L recorded in October 2023 compared to 4.7 µg/L in March 2021. Ongoing monitoring will establish if there is an increasing trend at this location due to the transport of PFAS from up/cross gradient source areas. The well is located along the southern Base boundary and is at distance (>1 km) from source areas.

Other on-Base boundary groundwater monitoring locations have a stable, no trend or a decreasing trend for PFHxS + PFOS concentrations (refer to **Table 21**).

8.2.1.2 Off-Base

The inferred extent of PFAS impacts in 2023 are indicated to the west, southwest and south of the Base as shown in **Figure 24** in **Appendix A**. Full analytical results are shown in **Table T2** in **Appendix B**. The extent of PFHxS + PFOS groundwater concentrations exceeding HEPA, (2020) drinking water guideline values in the monitoring period is show in **Figure 24** and is generally similar to that presented in the 2017 ESA (AECOM, 2017a) (which was based on maximum concentrations detected in the period 2014 to 2017) and subsequent monitoring event reports (AECOM, 2018b, 2019a, 2019b, 2021, 2022a, 2023c). While there was a first-time detection of PFHxS + PFOS at MW151 outside the Management Area, the concentrations did not exceed the adopted drinking water guideline and the extent of the area of exceedance in **Figure 24** has not been amended.

The interpreted extent of the PFHxS + PFOS plume to the south has remained unchanged since the previous monitoring period in 2022. The southern extent is uncertain to the distance between groundwater sampling locations MW038 and MW285 in the southern portion of the Management Area. An additional monitoring location south of MW038 would provide improved understanding.

Most groundwater monitoring wells installed in the Management Area are in the upper portion of the Oakey Creek Alluvium. Limited information is available for residential bores and they are assumed to be installed into the Oakey Creek Alluvium. Previous investigations have identified the upper and lower portions of the aquifer to have slightly different properties with the upper portion to consist of more cohesive material and lower hydraulic conductivity compared to the lower portion which has relatively coarser material and higher hydraulic conductivity. The 2017 ESA (AECOM, 2017a) established that the

different portions were connected and form a single heterogeneous aquifer. Infiltration test results, geotechnical laboratory testing, plus geological logs reviewed for the 2017 ESA, indicate the heterogeneity within the Alluvium. For many of the privately owned bores included in the monitoring program it is uncertain which portion of the Oakey Creek Alluvium aquifer they are installed in. The discussion in this section considers the Oakey Creek Alluvium as a single aquifer unit. The potential presence of preferential pathways such as paleochannels and their influence on contaminant migration is uncertain.

Table 22 summarises the extent of PFAS in different portions of the Management Area and identifies changes compared to previous results. The categorisation of areas is consistent with the SAQP rationale for groundwater monitoring locations. The areas represent areas up-gradient (northeast) of the Base, down-gradient of the Base (at <1 km, 1-2 km and >2 km distance from the western Base boundary), areas cross gradient to the south and southeast.

Table 22 PFAS in Oakey Creek Alluvium Aquifer Off-Base

Area Off-Base from Base Boundary	Extent of PFAS in the Oakey Creek Alluvium aquifer	Bores / wells
Northeast of Swartz Barracks	PFAS was not detected in the background monitoring well (MW265) in April 2023 indicating there are no up-gradient sources of PFAS migrating onto the Base.	MW265
<1 km of southern Base boundary of Swartz Barracks	The extent of PFAS in groundwater is unchanged compared to previous results. This includes areas adjacent to the drainage channels and Oakey Creek. Only MW032, MW257 and MW268 had sufficient PFHxS + PFOS results to complete Mann-Kendall analysis (refer to **Table 21**) which indicated a stable or no trend. The highest concentration of PFHxS + PFOS in 2023 was detected in MW276 at 19.4 µg/L which is within the historical range of 10 to 22.6 µg/L. MW276 is located approximately 1 km to the south-south-west of Swartz Barracks, and down hydraulic gradient, of drainage channel 1. **Chart D4** in **Appendix D** displays MW257, MW266, MW267, MW268 and MW276. Qualitatively there is a stable or no trend of PFHxS + PFOS for all wells in this area.	MW032, MW257, MW266, MW267, MW268, MW276
<1 km of south-western corner of Swartz Barracks	The extent of PFAS in groundwater in April 2023 is unchanged compared to previous results. New maximum PFHxS + PFOS, PFOS and PFOA were detected at MW122 in April 2023 within the same order of magnitude as historical results. There was insufficient PFHxS + PFOS results to complete Mann-Kendall analysis for wells in this area. Mann-Kendall analysis for PFOS and PFOA (refer to **Table 21**) at MW113 and MW122 indicated an increasing trend. Both MW113 and MW122 are located within 250 m of the western Base boundary and down-gradient of on-Base source areas. The increasing trend may be associated with transport of PFAS from up-gradient source areas. MW113 concentrations in 2023 of PFHxS + PFOS, PFOS and PFOA are within historical ranges. New maximum concentrations of PFHxS + PFOS, PFOS and PFOA at MW122 are within the same order of magnitude as historical results.	MW113, MW114, MW118, MW122, MW157

Area Off-Base from Base Boundary	Extent of PFAS in the Oakey Creek Alluvium aquifer	Bores / wells
	Remaining wells (MW114, MW118 and MW157) in this area had stable or no trend for PFOS and PFOA concentrations.	
1-2 km of southwestern corner of Swartz Barracks	The extent of PFAS in groundwater is unchanged compared to previous results with similar concentrations reported in the samples from seven bores / wells collected in the monitoring period compared to the previous results. The maximum PFHxS + PFOS concentrations in groundwater in the monitoring period was 6.85 µg/L at MW021 in April 2023. Mann-Kendall analysis for MW021 (refer to **Table 21**) indicated an overall probably increasing PFHxS + PFOS trend which may be associated with transport of PFAS from up-gradient source areas, however, concentrations reported to date are within the same order of magnitude as previous results at MW021. Mann-Kendall analysis (refer to **Table 21**) indicated an overall increasing PFHxS + PFOS trend in groundwater at MW134 and MW262, which are located down-hydraulic gradient of the former Council landfill, located at Lorrimer Street. Concentrations of PFHxS + PFOS at MW134 have fluctuated within the same order of magnitude since October 2021. PFHxS + PFOS in MW262, located approximately 200 m east of MW134, was reported at 0.71 µg/L and 0.55 µg/L in April and October 2023, respectively, which is slightly higher than the historical range for this location (0.19 to 0.62 µg/L). Refer to **Chart D5** in **Appendix D**. Ongoing monitoring will continue at these locations to confirm the trend potentially from transport of PFAS from up-gradient source areas. MW280 is also potentially down-hydraulic gradient of the former Council landfill. This well has detected PFAS concentrations within the same order of magnitude as previous results and reports similar concentrations to other wells in this portion of the Management Area.	MW021, MW134, MW255, MW262, MW272, MW274, MW280
>2 km to the west and southwest of Swartz Barracks	PFAS was detected in groundwater in five locations to the west and southwest of the southwestern corner of Swartz Barracks (MW019, MW038, MW151, MW281 and MW282). Mann-Kendall analysis for PFHxS + PFOS results (refer to **Table 21**) which indicated an increasing trend at MW019. A probably increasing trend was indicated at MW038 which may be associated with transport of PFAS from up-gradient source areas. The reported concentrations of PFHxS+ PFOS, PFOS and PFOA in the 2023 monitoring period at MW281 and MW282 are within the same order of as historical results. The most down-hydraulic gradient bore with detected PFHxS + PFOS concentrations in April 2023 was MW151 with 0.03 µg/L. Resampling of the location in August and October 2023 confirmed this first-time detection with 0.02 µg/L reported for both events. All detections are below the HEPA (2020) drinking water criteria. This is the first-time PFAS has been detected outside the Management Area and is considered an indication	MW003, MW019, MW038, MW147, MW149, MW151, MW281, MW282, MW283

Area Off-Base from Base Boundary	Extent of PFAS in the Oakey Creek Alluvium aquifer	Bores / wells
	that the extent of PFAS has continued to migrate to the west with groundwater in the Oakey Creek Alluvium. MW019 reported 0.12 µg/L PFHxS + PFOS in April 2023. MW019 is located approximately 2.3 km to the west of the south-western corner of Swartz Barracks. Statistical analysis has identified an increasing trend at MW019 which may be associated with transport of PFAS from up-gradient source areas. The drinking water guideline value (0.07 µg/L) was previously exceeded in 2017, 2020, and 2022 and in both sampling events in 2023. The known extent of PFAS exceeding the drinking water guideline is shown in **Figure 24** in **Appendix A**. Future changes to the extent are predicted based on solute transport modelling as reported in the ESA (AECOM, 2017a). PFAS concentration at MW038 have fluctuated since the commencement of monitoring and statistical analysis has identified a probably increasing trend which may be associated with transport of PFAS from up-gradient source areas. Concentrations increased in the 2023 monitoring events, with April 2023 and October 2023 recording 1.07 µg/L and 1.24 µg/L respectively. These increased concentrations are within the same order of magnitude as results previously recorded in this monitoring well. The lateral extent of PFAS in groundwater to the south is uncertain as the nearest monitoring well south of MW038 is MW285, which is approximately 1.7 km away. A monitoring well positioned to the south of MW038 and on the western side of Oakey Creek would address the gap in the monitoring network in this portion of the Management Area. PFAS were not detected in groundwater in the monitoring period in the most distant well (MW283) to the southwest (4.0 km to the southwest of the southwestern corner of Swartz Barracks), indicating that PFAS in groundwater does not extend to this portion of the Management Area.	
South-east of Swartz Barracks	The extent of PFAS in groundwater in April/May 2023 with reported concentrations at MW270, MW292 and MW294 is unchanged compared to previous results. The April 2023 results show minor concentrations of PFAS were detected in a well <300 m from Swartz Barracks (6:2 Fluorotelomer sulphonate (FTS); 0.06 µg/L at MW270). PFAS was detected in groundwater in MW294, located 1 km south of Swartz Barracks, on the northern side of Oakey Creek at a concentration of 0.75 µg/L for PFHxS + PFOS. PFAS has been consistently detected in groundwater at MW292 (at 0.28 µg/L PFHxS + PFOS) located adjacent to the southern side of Oakey Creek. The reported concentrations of PFHxS + PFOS, PFOS and PFOA in the 2023 monitoring period at MW292 and MW294 are within the same order of as historical results. PFAS was not detected at MW278 on the southern side of Oakey Creek, indicating PFAS groundwater contamination	MW270, MW278, MW279, MW292, MW294

Area Off-Base from Base Boundary	Extent of PFAS in the Oakey Creek Alluvium aquifer	Bores / wells
	does not extend to the southeast (based on the current dataset).	
>1 km of Swartz Barracks to the south	The extent of PFAS in groundwater at MW056, MW285 and MW290 in this area for 2023 monitoring period is unchanged compared to previous results. The PFHxS + PFOS concentration detected in MW290 in April 2023 (0.2 µg/L) is comparable to the concentration recorded in the sample from MW056 (0.35 µg/L), located approximately 300 m further south, which has a stable trend (refer to **Table 21**). The presence of PFAS in these wells potentially relates to the presence of other historical off-Base local sources along Lorrimer Street, as identified in AECOM (2015). For example, an area potentially used for off-Base firefighting training by non-Defence personnel is located to the east of MW290 and MW056, which is hydraulically up-gradient. PFAS (0.02 µg/L each for PFPeA and PFHxA) were detected at MW285 in April 2023, located approximately 4.5 km south of the Swartz Barracks. Concentrations of PFHxS + PFOS and PFOA at were below laboratory limit of reporting and drinking water criteria. Historically, PFAS has been detected on three occasions in samples in 2018 and 2019 from this well.	MW056, MW285, MW290

8.2.1.3 PFAS in Walloon Coal Measures

Overall, the sampling results for wells in the Walloon Coal Measures aquifer in the 2023 monitoring period are consistent with historical results reported between 2017 and 2022.

Since April 2018, PFAS have been detected at MW269, close to drainage channel 1 and approximately 400 m to the south of Swartz Barracks. PFHxS + PFOS was reported at MW269 in the range 0.08 µg/L to 0.14 µg/L between October 2020 and October 2023, exhibiting a stable trend. A purging event was completed in September 2018 to remove water containing PFAS in this bore based on indications that the contamination in the bore may have been introduced during its construction (AECOM, 2018c). The results since the purging have generally been lower than the maximum concentration detected. The reduction in PFAS concentrations suggests that the detections are likely to be associated with the bore construction process and are not indicative of continuous or historical vertical migration to the Walloon Coal Measures aquifer.

In April 2023, PFAS were detected in a groundwater sample from one (MW293) of the other six monitoring wells that are screened in the Walloon Coal Measures. The PFHxS + PFOS concentration reported (0.02 µg/L) was close to the LOR and is the third time PFAS has been detected in this monitoring well. Occasional low-level detections of PFAS (close to the LOR) have been reported in groundwater samples collected from the Walloon Coal Measures aquifer since monitoring wells were installed in 2017. The mass in the Walloon Coal Measures is likely to be negligible and therefore can be discounted as a remediation target.

8.2.2 PFAS in Groundwater in Main Range Volcanics at Brymaroo

Groundwater results for PFHxS + PFOS and PFOA are presented in **Figure 18** and **Figure 19** in **Appendix A**. Full analytical results are shown in **Table T3** in **Appendix B**.

PFAS concentrations were comparable to previous historical results undertaken since the ESA (AECOM, 2017a). Temporal changes in PFHxS + PFOS and PFOA concentrations have been presented in **Chart D6** and **D7** in **Appendix D.** Qualitative review of the charts for PFHxS + PFOS indicate seven wells have a stable trend and four wells have a potential increasing trend: MW002,

MW003, MW009, MW010. Only MW003 had sufficient data points to conduct Mann-Kendall which indicated PFOA concentrations are increasing, PFOS concentrations have no trend and PFHxS + PFOS concentrations are increasing. PFOA increasing concentrations may be associated with transport of PFAS from up-gradient source areas. All remaining groundwater wells had insufficient number of datapoints to be able to conduct Mann-Kendall analysis.

The extent of PFAS in groundwater in this area is unchanged compared to previous results. PFAS concentrations in April 2023 were generally similar to concentrations reported in April 2022. Overall, the results indicated an area of PFAS groundwater contamination is present in the infrastructure area with the highest concentrations present to the west and south of the western refuelling pad (MW002, MW003 and MW009) as shown on **Figure 18**, **Appendix A**. PFAS was reported slightly above the LOR in samples from one monitoring well down-gradient of this area to the north (MW007). PFAS was not detected in the remaining wells. This indicates limited migration of PFAS in groundwater from the potential source areas in these directions.

Since 2019, PFAS has been detected in the two monitoring wells to the northeast of the infrastructure area, MW010 and MW011. At MW010, PFHxS + PFOS increased from <0.01 µg/L in 2019 to 1.18 µg/L in 2020, however, has since been stable, reporting 0.91 µg/L in April 2022 and 1.12 µg/L in April 2023. The detection of PFAS at MW010 indicated the migration of PFAS to the northeast. As there are no monitoring wells to the northeast beyond MW010, the extent of the area of PFAS groundwater contamination in this direction is not known. Due to the distance to the Base boundary (>400 m), the limited extent of PFAS in groundwater in other directions (<200 m) and the low hydraulic gradient (0.007 m/m between MW002 and MW008) of the Main Range Volcanics aquifer, this data gap is of low importance. Ongoing monitoring will indicate the longer-term trend in PFAS concentrations in groundwater at MW010.

There is no indication that PFAS is migrating in groundwater across the property boundary. There is potential for future changes in the magnitude and distribution of the contamination due to ongoing migration from potential source areas. Ongoing monitoring will continue to assess for any of the potential future changes.

8.3 Surface Water and Sediment Results

Surface water and sediment results for PFHxS + PFOS and PFOA in March / April 2023 are provided in **Figure 20** to **Figure 23**, in **Appendix A**. Full analytical results for surface water and sediment are shown in **Table T5** and **Table T6** in **Appendix B**. The results are discussed per area (i.e. creeks and drainage channel) consistent with the SAQP nominated monitoring locations.

8.3.1 Surface Water: Drainage Channels

The highest PFHxS + PFOS concentration in surface water in March / April 2023 was reported in the on-Base sample from drainage channel 2 (SW024 at 3.2 µg/L). A summary of PFHxS + PFOS reported at the three drainage channels in 2023 is presented in **Table 23** below.

Table 23 Summary of PFHxS + PFOS in Drainage Channels

Drainage channel	PFHxS + PFOS On-Base in 2023	PFHxS + PFOS Off-Base in 2023	Results within historical range
1	1.03 µg/L (SW066)	1.16 µg/L (SW026)	Yes
2	3.23 µg/L (SW024)	1.14 µg/L (SW009)	Yes
3	1.3 µg/L (SW063)	0.69 µg/L (SW057)	No - SW063 which recorded a concentration an order of magnitude above the historical maximum

Chart D8 in **Appendix D** shows the change in PFOS concentration in surface water in the three drainage channels, including on-Base and off-Base sampling locations between 2014 and 2023.

Overall, PFAS results in 2023 in surface water from the on-Base drainage channels were lower than the historical maximum concentrations, and within historical ranges recorded at most locations except SW063 in drainage channel 3. Decreases in concentrations since 2018 may reflect reduction in mass flux along the drainage channels following completion of remediation works along the on-Base drainage channels in 2018. Remediation works of the FFTA to the north of drainage channel 1 completed in 2021 may have contributed to decreases in PFAS concentrations in surface water.

8.3.2 Surface Water: Creeks

The highest PFOS concentration in surface water samples from creeks in March / April 2023 was 0.6 µg/L at SW013, which is located at the outfall of drainage channels 1 and 2 (**Figure 20, Appendix A**).

The results indicate the following:

- **Oakey Creek:**
  - Upstream of the outflow of drainage channel 4: PFAS have not been detected above the LOR at SW040 since 2015. This location is considered representative of natural background conditions in the creek.
  - Downstream of drainage channels 1 and 2: Four of the five surface water samples collected reported PFAS, with the sample collected from the outfall of drainage channels 1 and 2 (SW013) recording the highest PFOS concentration (0.6 µg/L).
  - Downstream of confluence of Westbrook Creek: PFAS was not detected above the LOR in the single surface water sample analysed (SW004).
- **Doctor Creek:**
  - PFBS was reported slightly above the LOR in the single surface water sample (0.03 µg/L) collected from Doctor Creek (SW043) in April 2023. There were no detections of any other PFAS for this location in April 2023.
- **Westbrook Creek:**
  - PFAS was not detected in the single surface water sample collected (SW028). Previous sampling at this location has detected PFOS close to the LOR, which may possibly indicate an up-gradient source.

Overall, the results show the highest PFAS concentrations in surface water are present at monitoring locations within 1.5 to 3 kilometres downstream of the outflow point of drainage channels 1 and 2. The concentrations decrease with increasing distance downstream from Swartz Barracks. The furthest downstream sample collected (SW004), approximately 6.5 km downstream from Swartz Barracks has consistently reported PFOS concentrations close to, or below, the LOR.

Chart D9 in **Appendix D** shows the change in PFOS concentration in surface water in different parts of Oakey Creek between 2014 and 2023 as well as Doctor Creek and Westbrook Creek. PFOS has been selected as this compound has consistently been analysed since 2014 and the concentrations of PFOS have been higher compared to other PFAS.

Since 2014, PFOS concentrations have been variable, in particular at SW011, SW012 and SW013. The historical changes in PFOS concentration are likely to reflect changes in PFAS mass in surface water discharging via the drainage channels and variable flow conditions in the creek. As shown in **Chart D9** in **Appendix D**, PFOS concentrations show a decrease to concentrations at or close to LOR after rainfall of more than 225 mm in February 2020 and 2022 for SW011 and SW012 indicating that significant rainfall events affects the concentrations of PFOS in downstream locations.

8.3.3 Sediment

The highest PFOS concentration in sediment reported in 2023 was 0.0688 mg/kg at SD024 along drainage channel 2, which is lower than the previous maximum concentration recorded along this drainage channel (0.492 mg/kg at SD010 in 2015), refer to **Table T6**, **Appendix B**. A summary of PFOS results for the drainage channels and creeks for the period 2019 to 2022 and 2023 results compared to 2015-2018 period results is shown in **Table 24**. Data have been grouped into these time

periods to compare results before the on-Base drainage channels were remediated in 2018 and post-remediation. The remediation included the removal of approximately 12,000 m^3 of sediment and soil.

Table 24 Summary of Sediment Results: 2015 to 2023

Location	2015 to 2018		2019 to 2022		2023	
	No of samples	Range of PFOS (mg/kg)	No of samples	Range of PFOS (mg/kg)	No of samples	Range of PFOS (mg/kg)
Drainage Channel 1	10	0.032 to 0.13	12	0.0038 to 0.152	3	0.0228 – 0.06
Drainage Channel 2	11	0.001 to 0.492	16	0.0011 to 0.0997	4	0.0131 to 0.0688
Drainage Channel 3	12	0.001 to 3.68	16	0.0004 to 0.0523	4	0.0068 to 0.0649
Oakey Creek	35	<0.0002 to 0.021	34	<0.0002 to 0.0746	7	<0.0004 to 0.0144
Doctor Creek	21	<0.0002 to 0.0072	4	<0.0002 to 0.0005	1	0.0005
Westbrook Creek	1	0.0007	4	0.0002 to 0.0006	1	0.0011

Maximum PFOS concentrations in sediment in 2023 were within the post-remediation range for drainage channels 1 and 2, and Oakey Creek samples. The PFOS concentration in sediment sample SD007 collected from Doctor Creek was close to the LOR. Maximum sediment PFOS concentrations at drainage channel 3 and Westbrook Creek exceeded the post-remediation range of values, however, the drainage channel 3 concentrations were within pre-remediation levels.

Except for one sample from drainage channel 1 (SD106 in April 2021), lower maximum PFOS concentrations were recorded in sediment in the drainage channels 1, 2 and 3 in the period 2019 to 2022 and 2023 compared to the earlier 2015 to 2018 period, which is attributed to the drainage channel remediation works and the cessation of use of firefighting foams containing PFAS.

9.0 Discussion

9.1 Conceptual Site Model

9.1.1 Swartz Barracks

The CSM was developed during the investigation stages (AECOM, 2017a, b) and summarises the linkages between the sources, exposure pathways and receptors.

The ongoing monitoring program, over the monitoring period, has provided additional data to further understand the changing conditions (concentration and shape) of the area of groundwater impacted by PFAS in the Swartz Barracks Management Area.

Reported PFAS concentrations on- and off-Base in groundwater during the 2023 monitoring period have remained similar to historical data, with the exception of a first-time detection of PFHxS + PFOS at bore MW151 located outside of the Management Area during the April 2023 monitoring event. PFAS was detected in subsequent monitoring events in August and October 2023 at concentrations below the drinking water criteria. Spatial and temporal trends of PFAS concentrations at and near the Base combined with aquifer properties indicate that the PFAS plume is moving in a westerly direction consistent with solute transport modelling completed in 2017 ESA (AECOM, 2017a and AGE, 2018). The PFAS transport mechanisms are inferred to be consistent with the existing CSM presented in AECOM (2017a, b). The localised extent of PFAS in the vicinity of MW151 is not known and additional sampling of groundwater local bores cross and down-gradient of MW151 would address this uncertainty.

The CSM presented in the 2017 ESA (AECOM, 2017a) identified that PFAS in groundwater south of Swartz Barracks may be due to PFAS migrating in surface water in drainage channels, off-Base towards the south, followed by infiltration to groundwater. The former Council landfill and the SES training ground are present to the south of Swartz Barracks and are off-Base sources of PFAS to groundwater. PFAS in groundwater sourced from these off-Base source areas will migrate with groundwater flow in a westerly or north-westerly direction. The presence of unidentified preferential pathways, such as paleochannels may also contribute to the presence of PFAS to the south and southwest of the Base.

Overall, data presented in this report on the primary and secondary PFAS sources, pathways and receptors does not change the understanding of the CSM. An update of the CSM should consider the new potentially complete exposure pathways in the area west of the Management Area and findings from the mass flux study (AECOM, 2023e). Future monitoring will continue to contribute to an evaluation of any potential change to the CSM understanding.

9.1.2 Brymaroo

The findings of the groundwater sampling event conducted in April 2023 are consistent with historical results and are not considered to change the understanding of the existing CSM for Brymaroo (presented in AECOM, 2018d).

9.2 Risk Profile

9.2.1 Swartz Barracks

The HHRA (AECOM, 2017b) concluded that if people living, working, or undertaking recreation within the Management Area follow the existing precautionary advice from Queensland Health to minimise their intake of PFAS, they are unlikely to exceed the tolerable daily intake (TDI). Conversely, it was concluded that unrestricted exposure to PFAS across the Management Area is likely to result in an exceedance of the TDI. The activities listed in the table below were identified as having elevated exposure to PFAS (i.e. approaching or exceeding the TDI).

Table 25 Activities with Elevated Exposure to PFAS

Exposure Pathway	Management Zone 1	Management Zone 2	Management Zone 3
Drinking PFAS-impacted groundwater or using it in cooking.	✓	✓	✓
Unintentionally ingesting PFAS-impacted groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools and sprinkler play.	✓	✓	
Eating PFAS-impacted home grown leafy green vegetables.	✓	✓	
Eating PFAS-impacted red meat and / or offal from home grown cattle or sheep that have consumed PFAS-impacted water or grazed in areas irrigated or flooded with PFAS-impacted water.	✓	✓	
Eating PFAS-impacted eggs from backyard poultry.	✓	✓	
Eating PFAS-impacted fish from Oakey Creek.	✓	✓	✓
Drinking PFAS-impacted home grown milk.	✓		

The HHRA (AECOM, 2017b) identified that all other exposure pathways considered had a low and acceptable risk. The HHRA only considered home grown produce for consumption and did not consider an exposure pathway relating to produce farming for human consumption as no produce growing of vegetables was identified within the identified Management Area, at that time. Similarly, potential risks to landowners from exposure to soil irrigated with water containing PFAS was not considered.

Based on the 2023 groundwater monitoring data, the PFAS plume in groundwater is migrating in a westerly direction. With the exception of the recommended risk review of the area west of the current Management Area, the data collected during the ongoing monitoring program over the recent 12-month monitoring period suggest that the risk profile to human health within the remaining Swartz Barracks Management Area, described in the HHRA (AECOM, 2017b), is unchanged, based on the following conclusions of the data assessment:

- The extent of PFAS in groundwater is comparable to that presented in the 2017 ESA (AECOM, 2017a) and subsequent monitoring reports (AECOM, 2018b, 2019a, 2019b, 2021, 2022a, 2023c), however the detection of PFAS in monitoring well MW151 may require the boundary of the Management Area being moved further to the west, to include the location of MW151.
- PFAS concentrations in surface water from Oakey Creek at the Swartz Barracks Management Area were generally within the range of previous (historical) results. PFAS concentrations in surface water from the drainage channels were comparable to concentrations reported in 2020, 2021 and 2022 (AECOM, 2021, 2022a, 2023c). There were no new exceedances of guideline values during the monitoring period.
- PFAS concentrations in off-Base sediment were generally consistent with historical results.

Review of the current understanding of risk criteria has not indicated a need to alter the input assumptions of the 2017 HHRA (AECOM, 2017b). Based on the data, AECOM considers that most of the conclusions made in the 2017 HHRA (AECOM, 2017b) still apply, however, an update is required to consider the new potentially complete exposure pathway in the area west of the Management Area and currency of listings for PFAS components and associations with health conditions.

9.2.2 Brymaroo

No complete exposure pathways for human health receptors were identified for on-Base or off-Base receptors, assuming that occupational controls are in place to protect workers from exposure to potentially contaminated soil and the groundwater beneath the Base is not used for drinking or irrigation purposes. A potentially complete exposure pathway has been identified for on-Base ecological receptors (terrestrial ecosystems), where there could be uptake of PFAS in the food chain from contamination in the soil (in hotspots around the hot refuel area) to invertebrates and subsequently to invertivorous birds and small invertivorous mammals. It is considered that the PFAS concentrations detected in soil (based on a limited number of sample locations) are unlikely to present unacceptable risks to secondary consumers. No complete exposure pathway were identified for aquatic receptors.

The data collected during the ongoing monitoring program in 2023 suggest that the risk profile to human health and ecological receptors at Brymaroo is unchanged as PFAS concentrations in groundwater at locations down-gradient of source areas are generally consistent with previous results reported in 2020, 2021 and 2022 (AECOM, 2021a, 2022a, 2023c). Due to the distance to the down-gradient Base boundary and low concentrations detected in down-gradient wells, it is considered unlikely that PFAS is migrating off-Base.

Based on the data, AECOM considers that the conclusions made in the 2018 DSI (AECOM, 2018d) still apply.

9.3 Assessment of Current OMP

Following a review of data collected during the current monitoring period, there have been some changes to the understanding of risks associated with PFAS within and outside the Swartz Barracks Management Area. As PFAS has been detected in groundwater outside of the Management Area, additional monitoring locations are required further down-gradient to provide information on the extent of PFAS impact and potential risks to down-gradient groundwater users.

An additional monitoring south of MW038 would improve understanding of the distribution of PFAS within the southern portion of the Management Area.

Due to the number of sample locations that have reported PFAS concentrations consistent with historical results during the monitoring period, there is scope to optimise the monitoring network and frequency by reducing the number of monitoring points of the Swartz Barracks Management Area where there is a relatively higher density. New monitoring wells have been installed as part of the mass flux works and inclusion of these wells in the ongoing monitoring program will provide longer term data and inform changes to mass flux. This triggers the requirement to complete a review of the OMP. Long term surface water and groundwater performance monitoring for remediation works (AECOM, 2023d) may be optimised by being completed as part of the OMP.

There have been no changes to the risk profile at Brymaroo, and no need for monitoring of additional media.

10.0 Conclusions

This OMR provides an interpretation of groundwater, surface water and sediment results from monitoring completed as part of the OMP during 2023.

Overall, the concentrations of PFAS in groundwater were comparable to previous results, with the highest PFAS concentrations in 2023 being detected at monitoring wells located down-hydraulic gradient of known PFAS source areas identified during previous investigations. The extent of PFAS in groundwater is similar to that presented in the 2017 ESA (AECOM, 2017a) and subsequent monitoring reports (AECOM, 2018b, 2019a, 2019b, 2021, 2022a, 2023c). PFAS was detected for the first-time in a bore located outside of the Management Area to the west of Swartz Barracks, however, the concentrations did not exceed HEPA (2023) drinking water guideline values.

Statistical trend analysis indicated that most wells have either a stable or decreasing trend in PFHxS + PFOS concentration, with nine wells (MW019, MW021, MW038, MW134, MW179, MW201, MW249, MW262 and MW299) reporting an overall increasing or probably increasing trend. Reported concentrations of PFHxS + PFOS in the monitoring period in these wells were generally within the historical range of concentrations reported for these locations.

Concentrations of PFAS in surface water samples from creek locations and drainage channels within the Swartz Barracks Management Area in March / April 2023 were consistent with concentrations reported in 2020, 2021 and 2022. PFAS concentrations in sediment samples from creeks and drainage channels were consistent with historical results. Generally, PFOS concentrations of sediment were lower in drainage channels since remediation works in 2018.

At Brymaroo, PFAS concentrations in groundwater in April 2023 in down-gradient locations were similar to concentrations reported in April 2022. The highest PFAS concentrations were recorded for groundwater samples collected from monitoring wells (MW002, MW003 and MW009) close to the source areas where AFFF was stored and potentially discharged. PFAS was reported slightly above the LOR in samples from two monitoring wells down-gradient of this area to the north (MW005 and MW007) with the remainder of the wells in this area reporting PFAS concentrations below the LOR. PFAS has been detected in the two monitoring wells to the northeast of the infrastructure area, MW010 and MW011, with new maximum PFAS concentrations detected in 2023. Due to the distance to the Base boundary (>400 m), the limited extent of PFAS in groundwater in other directions (<200 m) and the low hydraulic gradient (0.007 m/m) of the Main Range Volcanics aquifer, this data gap is considered to be of low importance. Ongoing monitoring will indicate the longer-term trend in PFAS concentrations in groundwater at the location of MW010 and MW011.

The CSM for Swartz Barracks Management Area was reviewed. Overall, data presented in this report on the primary and secondary PFAS sources, pathways and receptors does not change the understanding of the CSM. A data gap has been identified for possibly complete exposure pathways for agriculture producing food for human consumption and irrigation of produce for areas west of the current Management Area. Based on the 2023 groundwater monitoring data, it appears that the PFAS plume is migrating in a westerly direction in the direction of groundwater flow. PFAS have been detected slightly above the standard level laboratory LOR in the furthest monitoring location to the west (MW151) indicating the leading edge of the plume extends beyond the western boundary of the Management Area. This is consistent with the results of solute transport modelling conducted in the 2017 ESA (AECOM, 2017a), which predicted PFAS to migrate in flowing groundwater in a westerly direction over time. Additional monitoring wells will be required to provide dedicated groundwater monitoring to the west of MW151 and the current Management Area to provide information on the leading edge of PFAS in groundwater. Due to the lack of monitoring wells south of MW038, there is uncertainty in the southern extent of PFAS in groundwater. An additional monitoring well in this area would address this data gap.

The CSM for Brymaroo was reviewed, and no changes were identified to sources, pathways, or receptors.

Due to the number of sample locations that have reported PFAS concentrations consistent with historical results during the monitoring period, there is scope to optimise the monitoring network and frequency by reducing the number of monitoring points in the Swartz Barracks Management Area where PFAS has not been detected. New monitoring wells have been installed as part of the mass flux

works and inclusion of these wells in the ongoing monitoring program will provide longer term data and inform changes to mass flux. Long term surface water and groundwater performance monitoring for remediation works (AECOM, 2023d) may be optimised by being completed as part of the OMP. Based on the data, no changes to the risk profile are required for Brymaroo.

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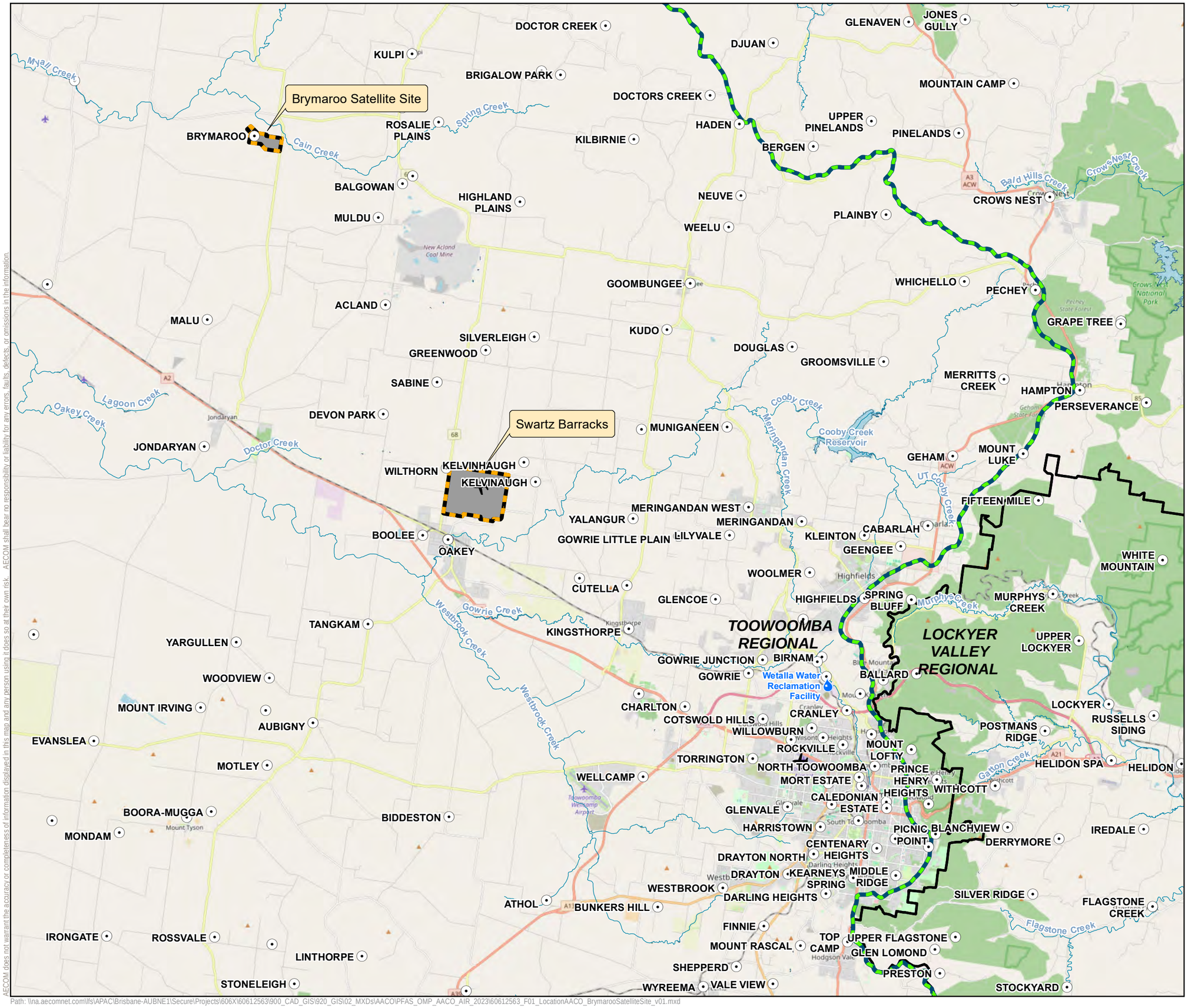
List of Appendices

Appendix A

Figures

Appendix A Figures



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 1.5 3 6 km

1:200,000 (when printed at A3)

LEGEND

- Airport
- Watercourse/waterbody
- Great Dividing Range
- Brymaroo Boundaries
- Local Governmental Area
- National Park

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011

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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

LOCATION OF SWARTZ BARRACKS AND BRYMAROO SATELLITE SITE

PROJECT ID	60612563
CREATED BY	JP
LAST MODIFIED	26/04/2024
VERSION:	1

FIGURE 1

A3 size

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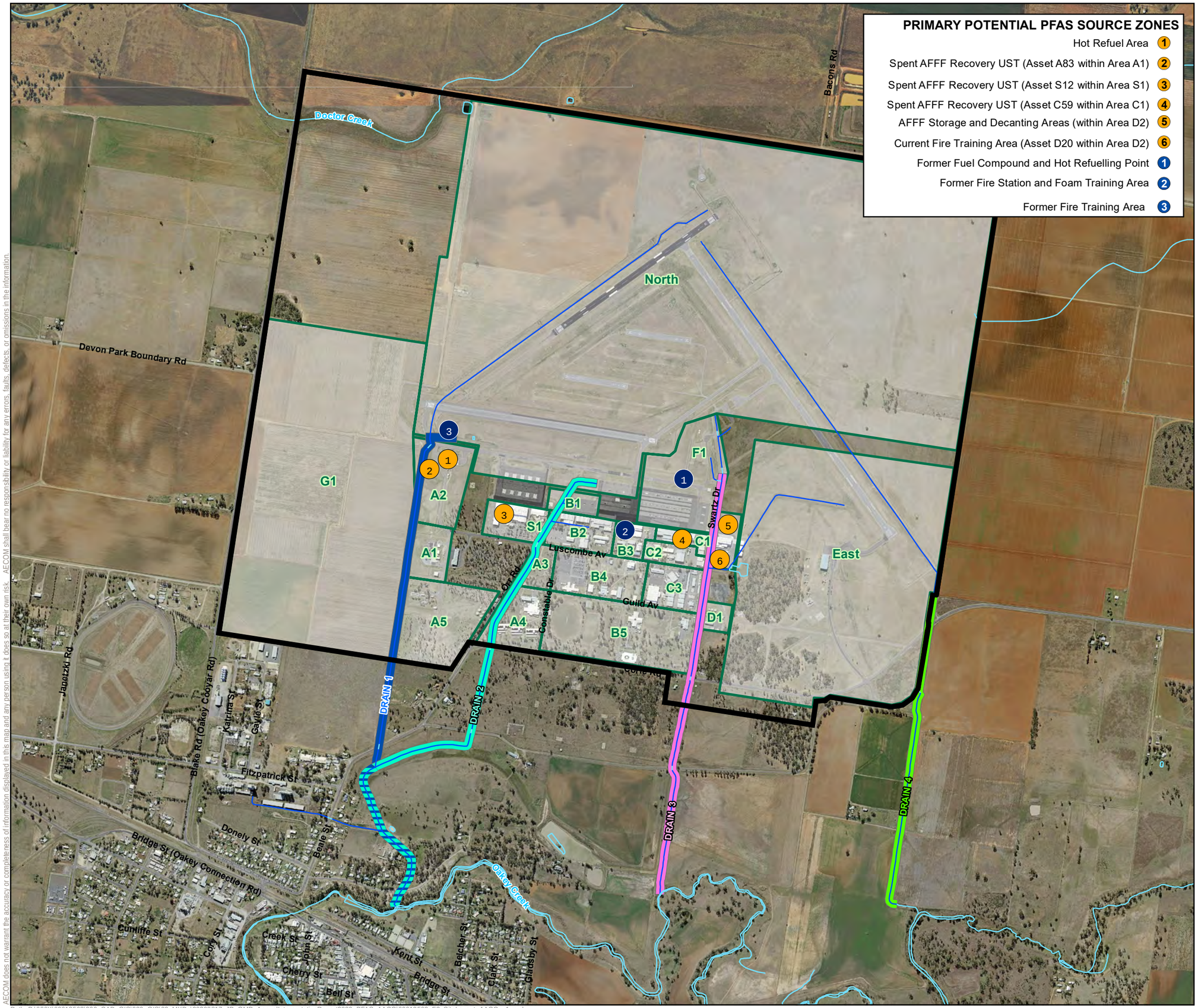

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 100 200 400 600 m

1:17,000 (when printed at A3)

LEGEND

- 1 Active Primary Potential Sources of Contamination
- 1 Depleting Primary Potential Sources of Contamination
- Drainage channel
- Watercourse/water body
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- On-Site Investigation Areas
- Site Boundary

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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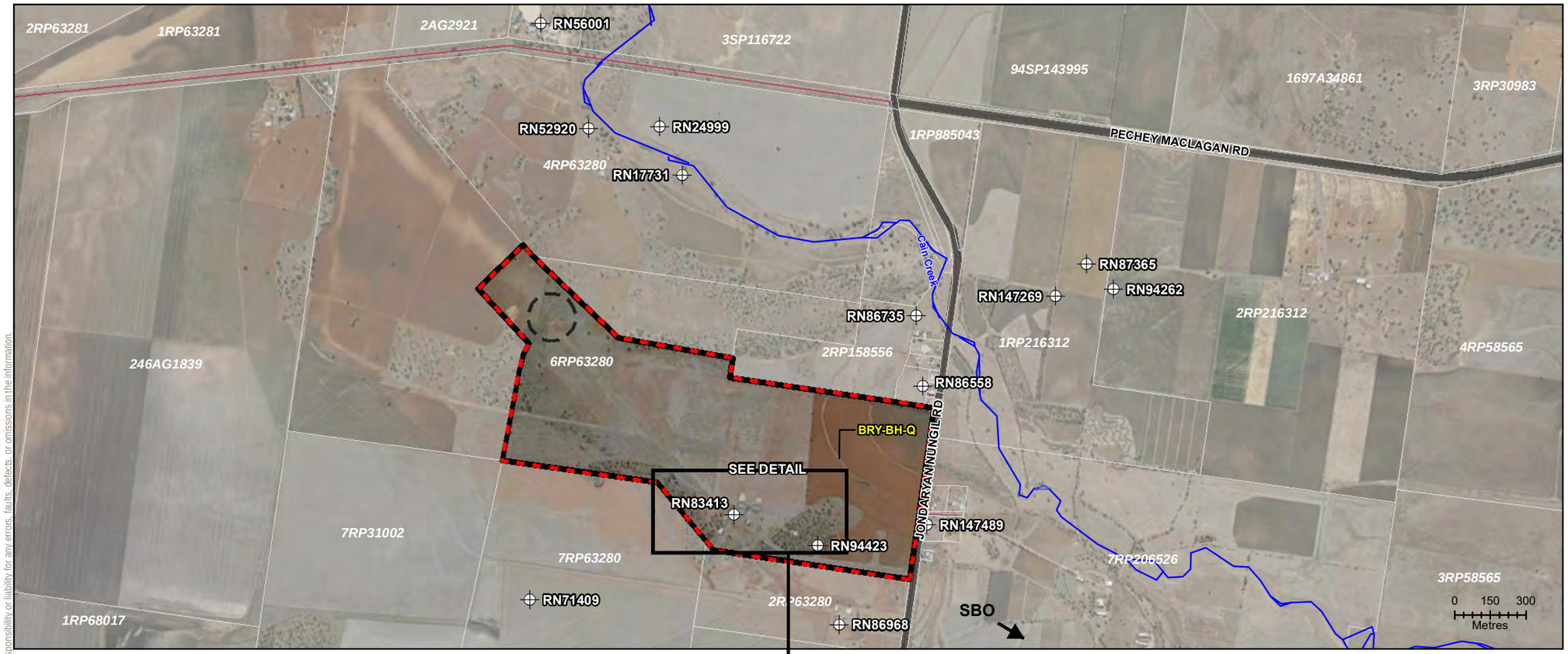
Ongoing Monitoring Report, 2023,
PFAS OMP - Swartz Barracks

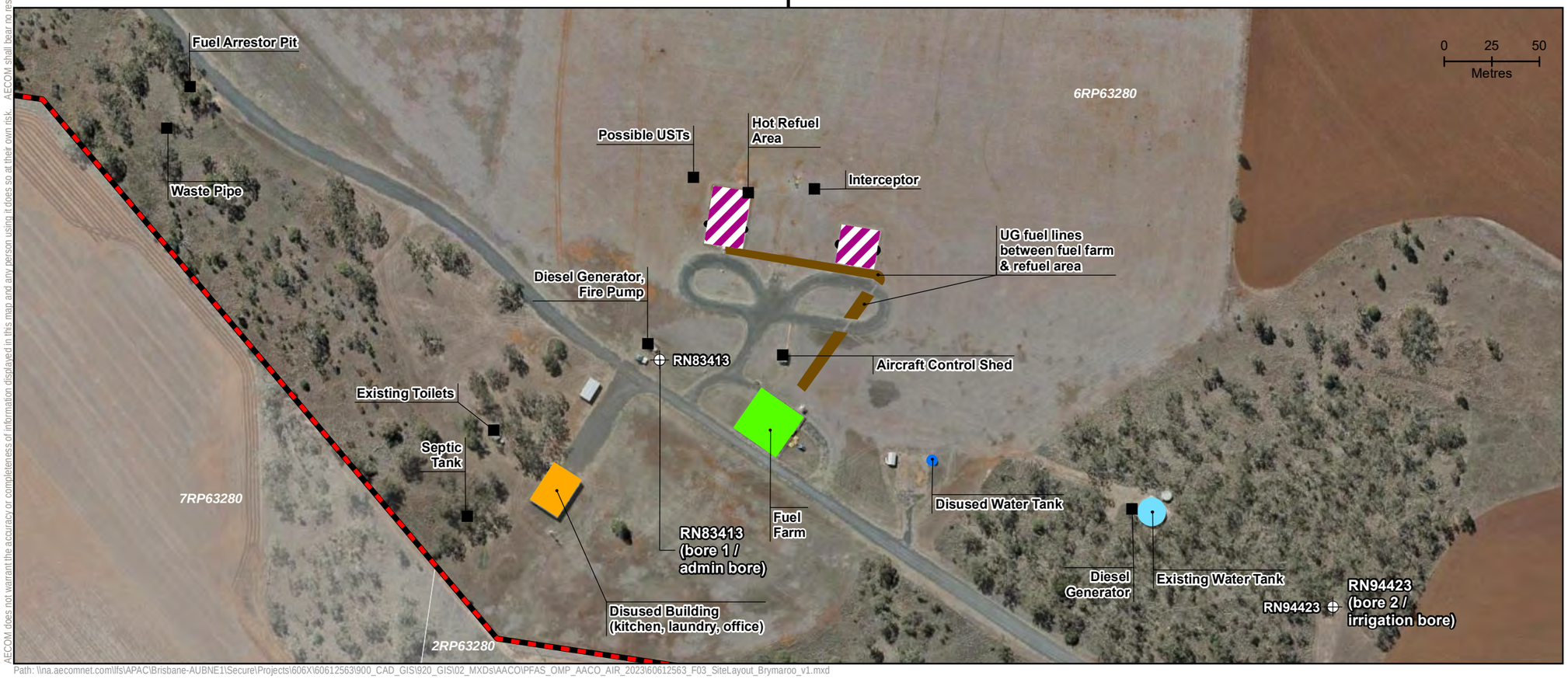
SITE LAYOUT –
SWARTZ BARRACKS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	bowenl2; 20/06/2022
VERSION:	1

FIGURE 2

A3 size





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DATUM GDA 1994. PROJECTION MGA ZONE 56

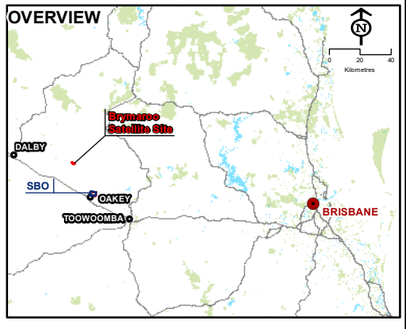
(scale varies, see individual views)

LEGEND

- Registered Groundwater Bore
- Site Features
- Cain Creek
- AFFF Containers (fire fighting system)
- Disused Building (kitchen, laundry, office)
- Disused Water Tank
- Existing Water Tank
- Fuel Farm
- Helipad
- Slope Landing Hill
- UG fuel lines between fuel farm & refuel area
- Cadastral Boundaries
- Brymaroo Satellite Site

Note:

- Fire hydrant A14 and Tap 01 are connected to RN83413/ Bore 1 / admin bore
- Tank TW01 has been filled with water from RN83413/ Bore 1 / admin bore
- Hydrant A17 is connected to RN94423/ Bore 2/ Irrigation bore



Data sources:

Base Layers: ESRI Basemaps Online
Imagery © State of Queensland, 2024

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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

SITE LAYOUT- BRYMAROO

PROJECT ID	60533675
CREATED BY	BM
LAST MODIFIED	BM, 5/03/2024
VERSION:	1

FIGURE 3

A3 size

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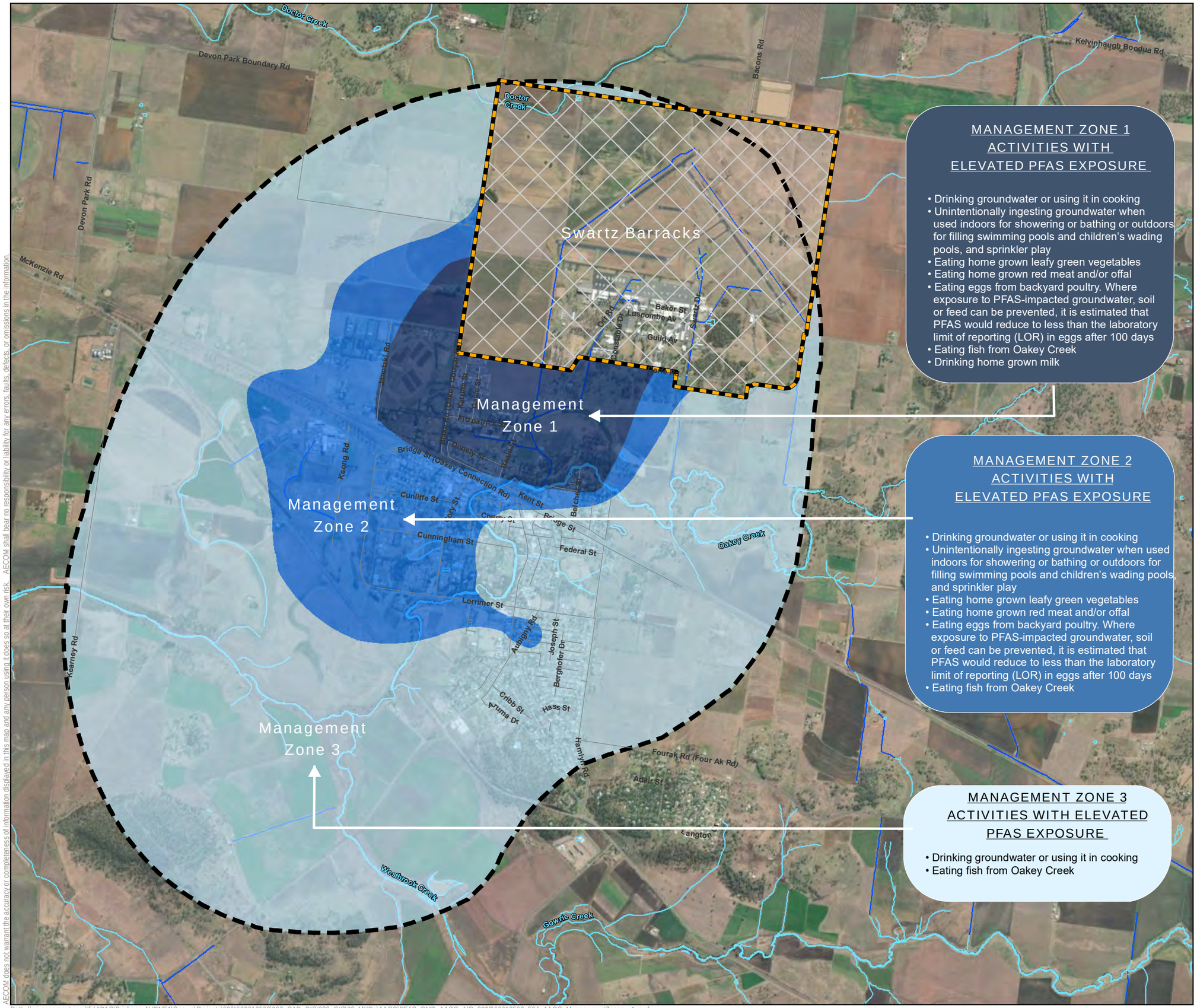

MANAGEMENT ZONE 1 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Unintentionally ingesting groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools, and sprinkler play
- Eating home grown leafy green vegetables
- Eating home grown red meat and/or offal
- Eating eggs from backyard poultry. Where exposure to PFAS-impacted groundwater, soil or feed can be prevented, it is estimated that PFAS would reduce to less than the laboratory limit of reporting (LOR) in eggs after 100 days
- Eating fish from Oakey Creek
- Drinking home grown milk

MANAGEMENT ZONE 2 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Unintentionally ingesting groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools, and sprinkler play
- Eating home grown leafy green vegetables
- Eating home grown red meat and/or offal
- Eating eggs from backyard poultry. Where exposure to PFAS-impacted groundwater, soil or feed can be prevented, it is estimated that PFAS would reduce to less than the laboratory limit of reporting (LOR) in eggs after 100 days
- Eating fish from Oakey Creek

MANAGEMENT ZONE 3 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Eating fish from Oakey Creek

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:35,000 (when printed at A3)

LEGEND

- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Site Boundary

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011

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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

SWARTZ BARRACKS
MANAGEMENT ZONES

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	stencela; 5/03/2024
VERSION:	1

FIGURE 4

A3 size

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 100 200 400 m

1:9,100 (when printed at A3)

LEGEND

- Site Boundary
- Groundwater Monitoring Locations - destroyed
- Groundwater Monitoring Locations

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

ON-BASE GROUNDWATER MONITORING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	22/07/2024
VERSION:	1

FIGURE 5

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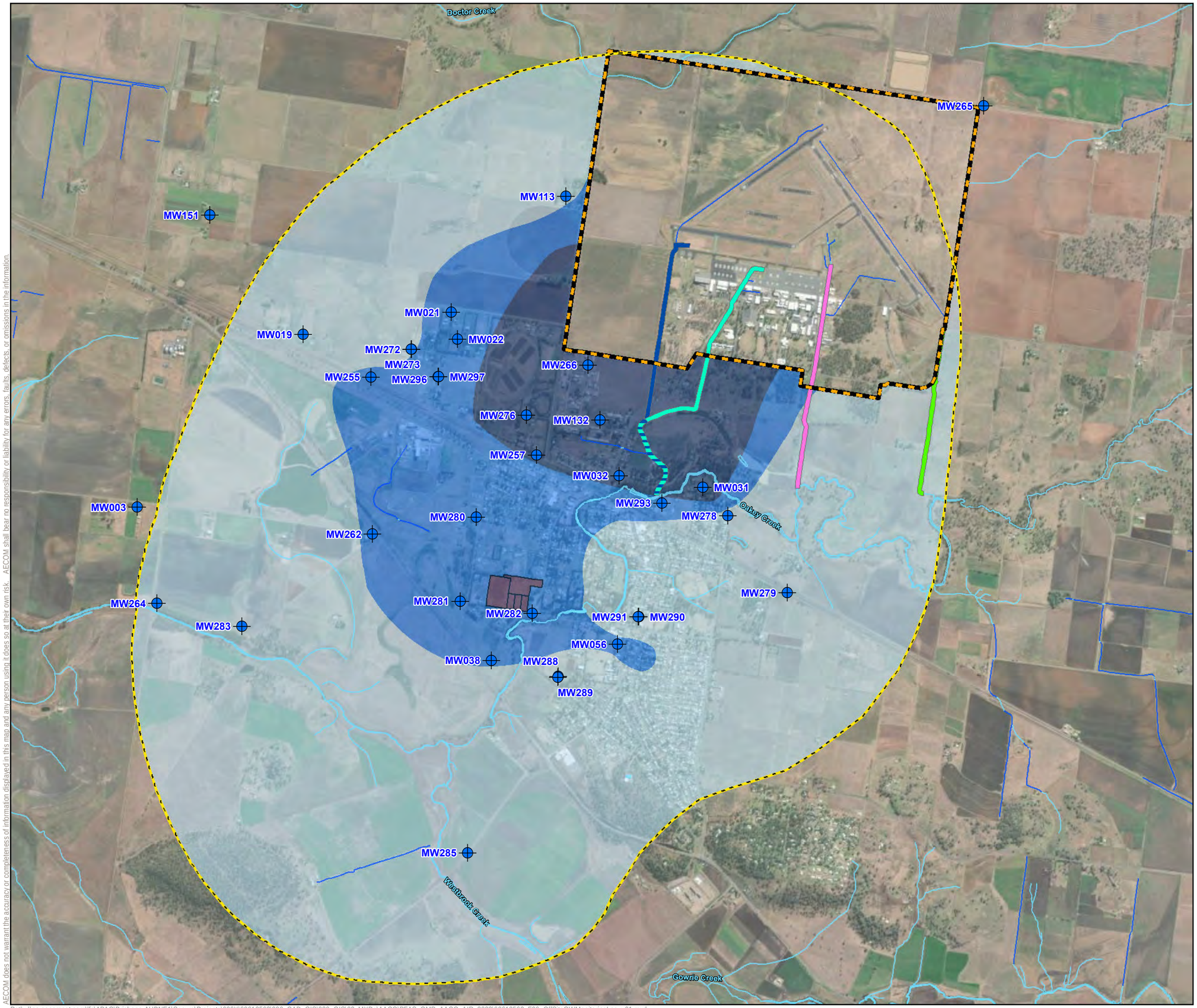

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

- Off-Base Groundwater Monitoring Well
- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Management Area
- Site Boundary
- Former Landfill

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

OFF-BASE GROUNDWATER MONITORING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	stencela; 6/03/2024
VERSION:	2

FIGURE 6

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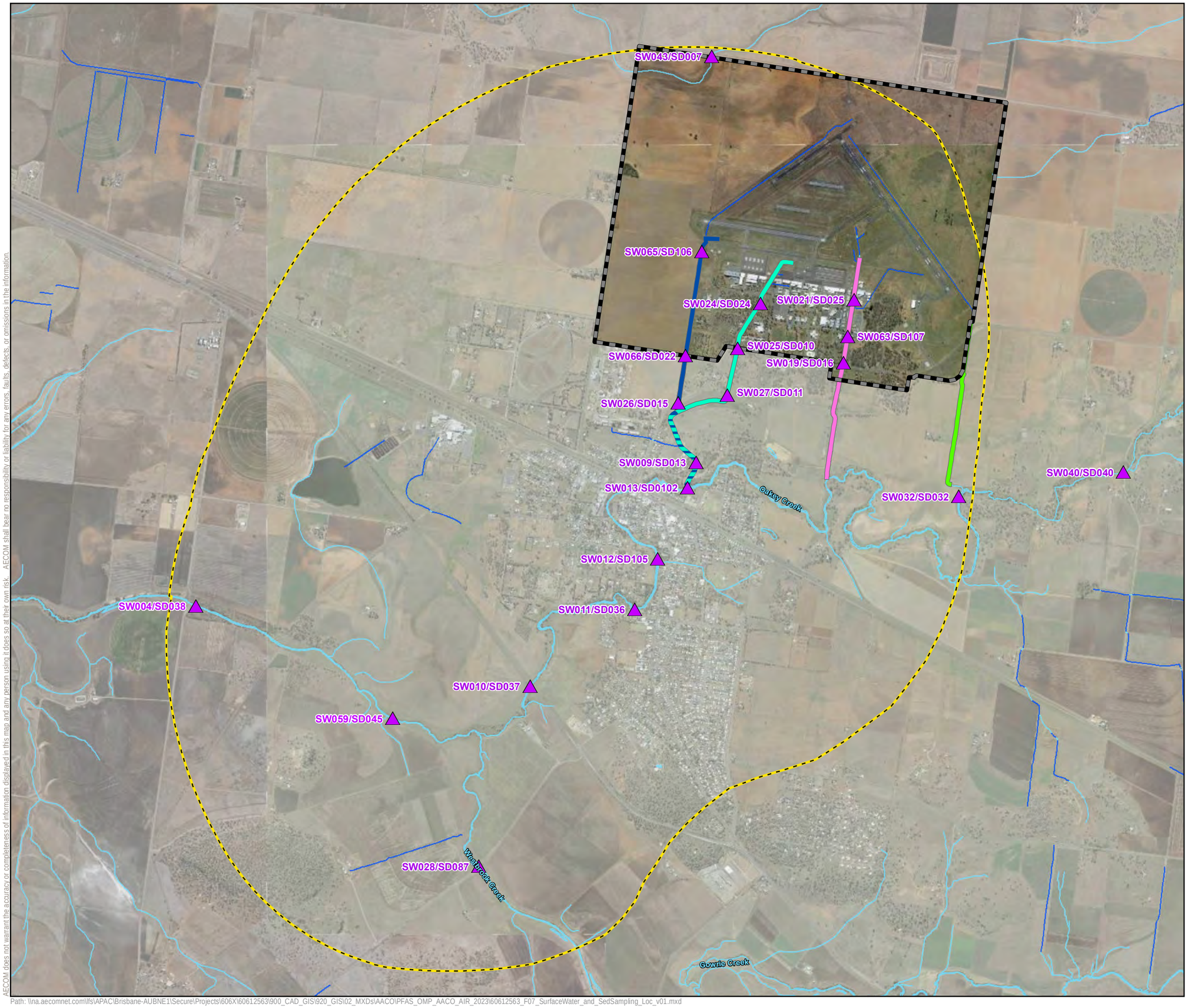

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

- Surface Water and Sediment Locations
- Management Area
- Site Boundary
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Drainage channel
- Watercourse/water body

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	
VERSION:	1

FIGURE 7

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 10 20 40 60 Meters

1:1,800 (when printed at A3)

Brymaroo Satellite Site

Groundwater Monitoring Locations

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

BRYMAROO GROUNDWATER MONITORING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	5/03/2024
VERSION:	1

FIGURE 8

A3 size

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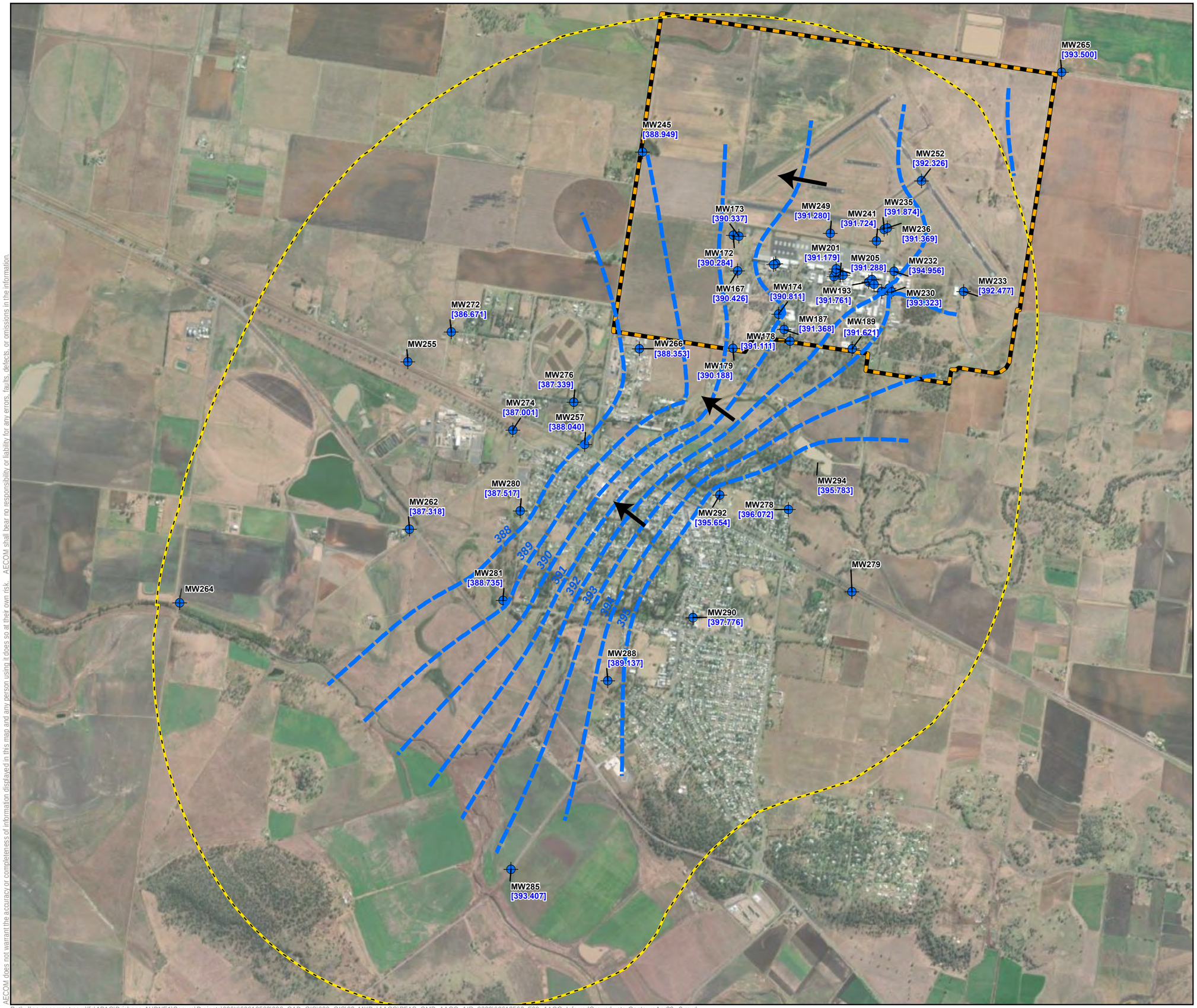

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 150 300 600 900 Meters

1:30,000 (when printed at A3)

Groundwater Elevation Contour (mAHD)

- Groundwater Elevation Contour (mAHD)
- Management Area
- Site Boundary
- Groundwater Monitoring Wells (mAHD)
- Groundwater Flow Direction

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

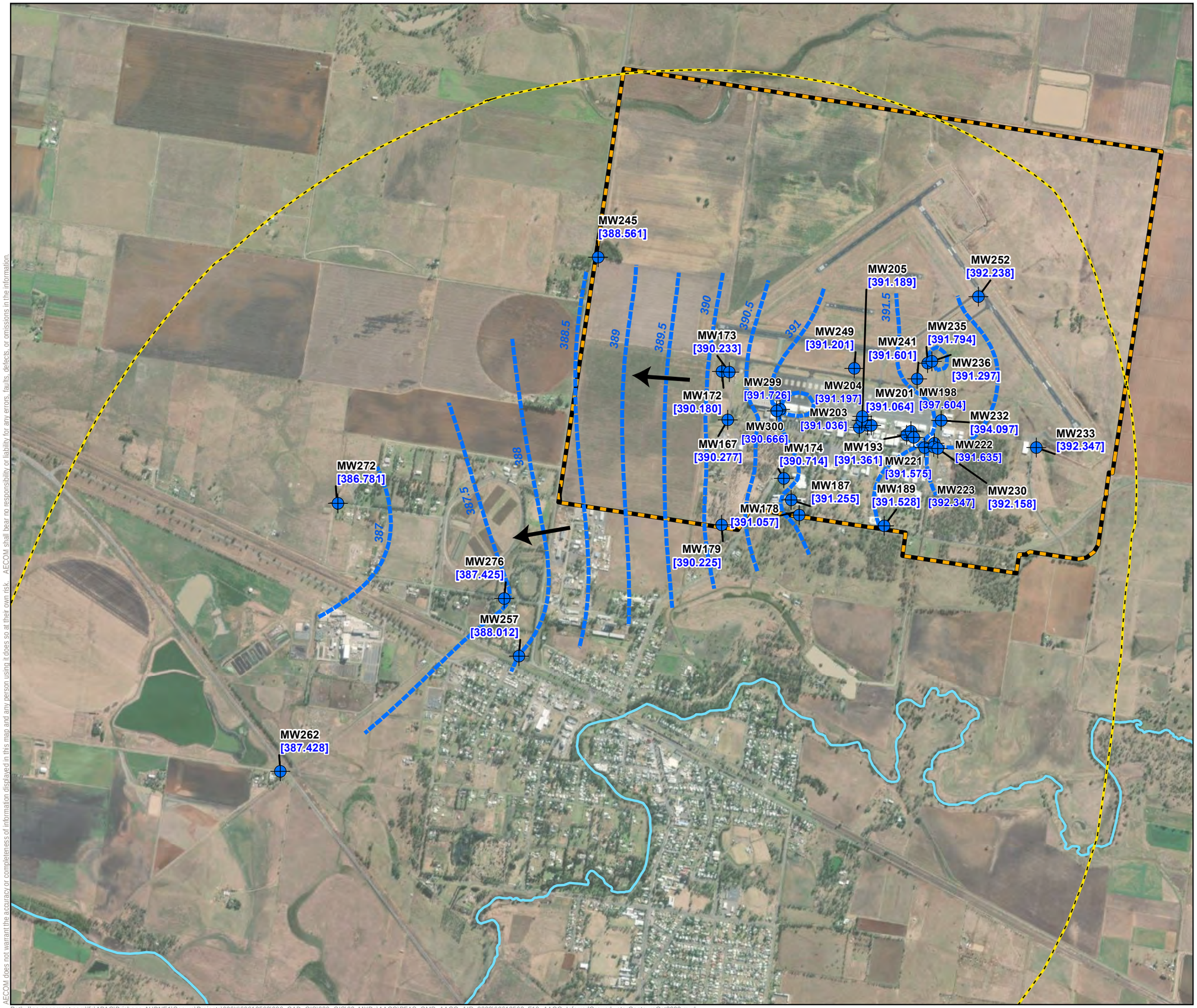
INFERRED GROUNDWATER CONTOURS IN OAKEY CREEK ALLUVIUM AQUIFER: APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	1/05/2024
VERSION:	1

FIGURE 09

A3 size

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_AIR_2023\60612563_F09_AACO_InferredGroundwaterContoursApr23 v2.mxd



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DATUM GDA 1994. PROJECTION MGA ZONE 56

Meters
0 100200 400 600

1:22,000 (when printed at A3)

- Management Area
- Site Boundary
- Groundwater Monitoring Wells (mAHD)
- Groundwater Elevation Contour (mAHD)
- Groundwater Flow Direction

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

INFERRED GROUNDWATER CONTOURS IN OAKEY CREEK ALLUVIUM AQUIFER: OCTOBER 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	26/04/2024
VERSION:	1

FIGURE 10

A3 size

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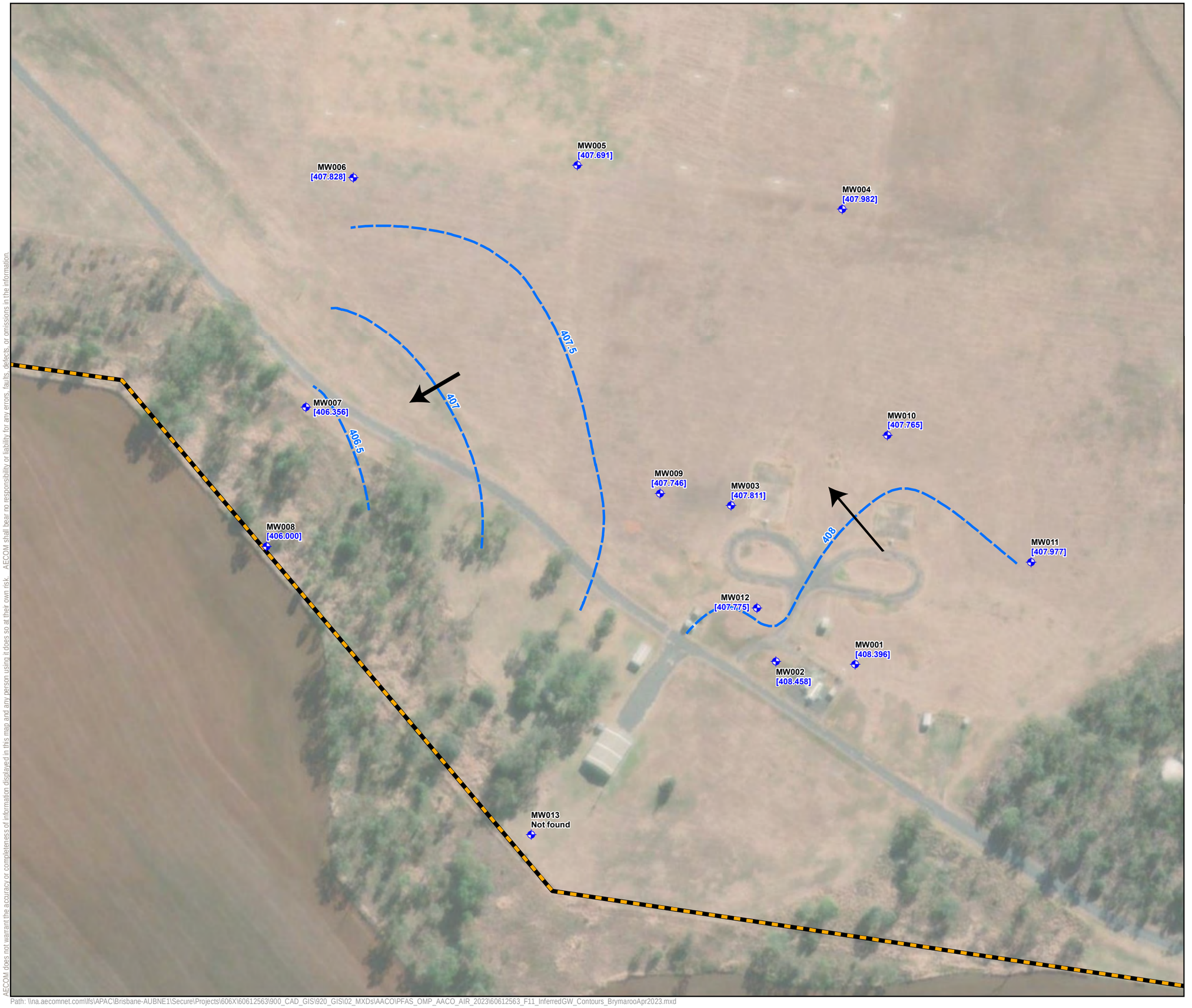

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DATUM GDA 1994. PROJECTION MGA ZONE 56

N

0 10 20 40 60 Meters

1:2,000 (when printed at A3)

- Brymaroo Satellite Site
- Groundwater Monitoring Well (mAHD)
- Groundwater Elevation Contour (mAHD)
- Groundwater Flow Direction

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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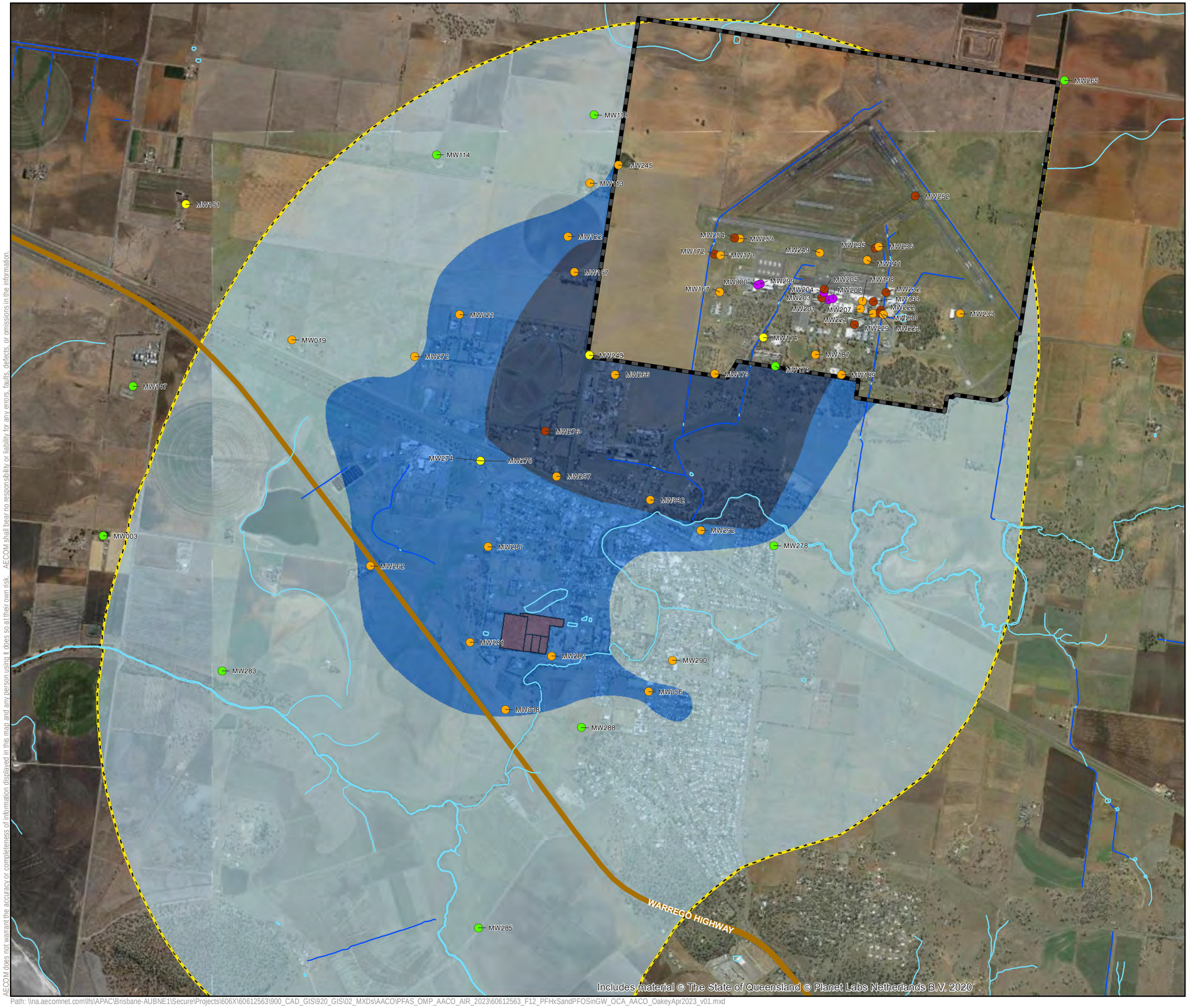
Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

INFERRED GROUNDWATER CONTOURS IN THE MAIN RANGE VOLCANICS AT BRYMAROO: APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	30/04/2024
VERSION:	1

FIGURE 11

A3 size



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:28,000 (when printed at A3)

LEGEND

Groundwater Analytical Results: PFOS + PFHxS Concentrations (µg/L)

- >50
- 10-50
- 0.07-10
- LOR-0.07
- <LOR

Drainage channel
Watercourse/water body
Former Landfill
Management Zone 1
Management Zone 2
Management Zone 3
Management Area
Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.
3. Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

Data sources:

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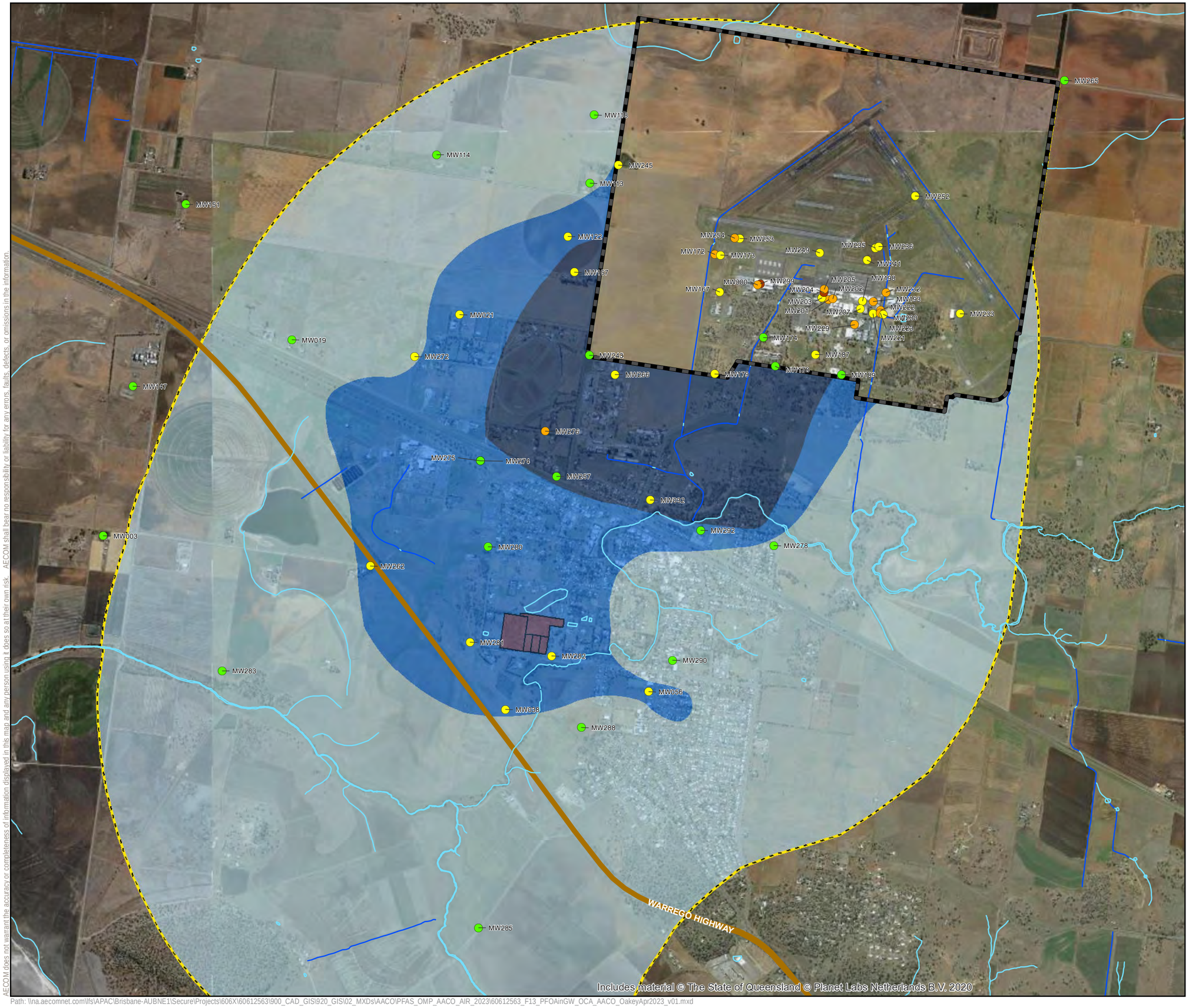
Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFHxS + PFOS CONCENTRATIONS IN GROUNDWATER IN OAKEY CREEK ALLUVIUM AND MAIN RANGE VOLCANICS AT SWARTZ BARRACKS IN APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	3/05/2024
VERSION:	1

FIGURE 12



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:28,000 (when printed at A3)

LEGEND

Groundwater Analytical Results: PFOA Concentrations (µg/L)

- >50
- 10-50
- 0.56-10
- LOR-0.56
- <LOR

Drainage channel
Watercourse/water body
Former Landfill
Management Zone 1
Management Zone 2
Management Zone 3
Management Area
Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.
3. Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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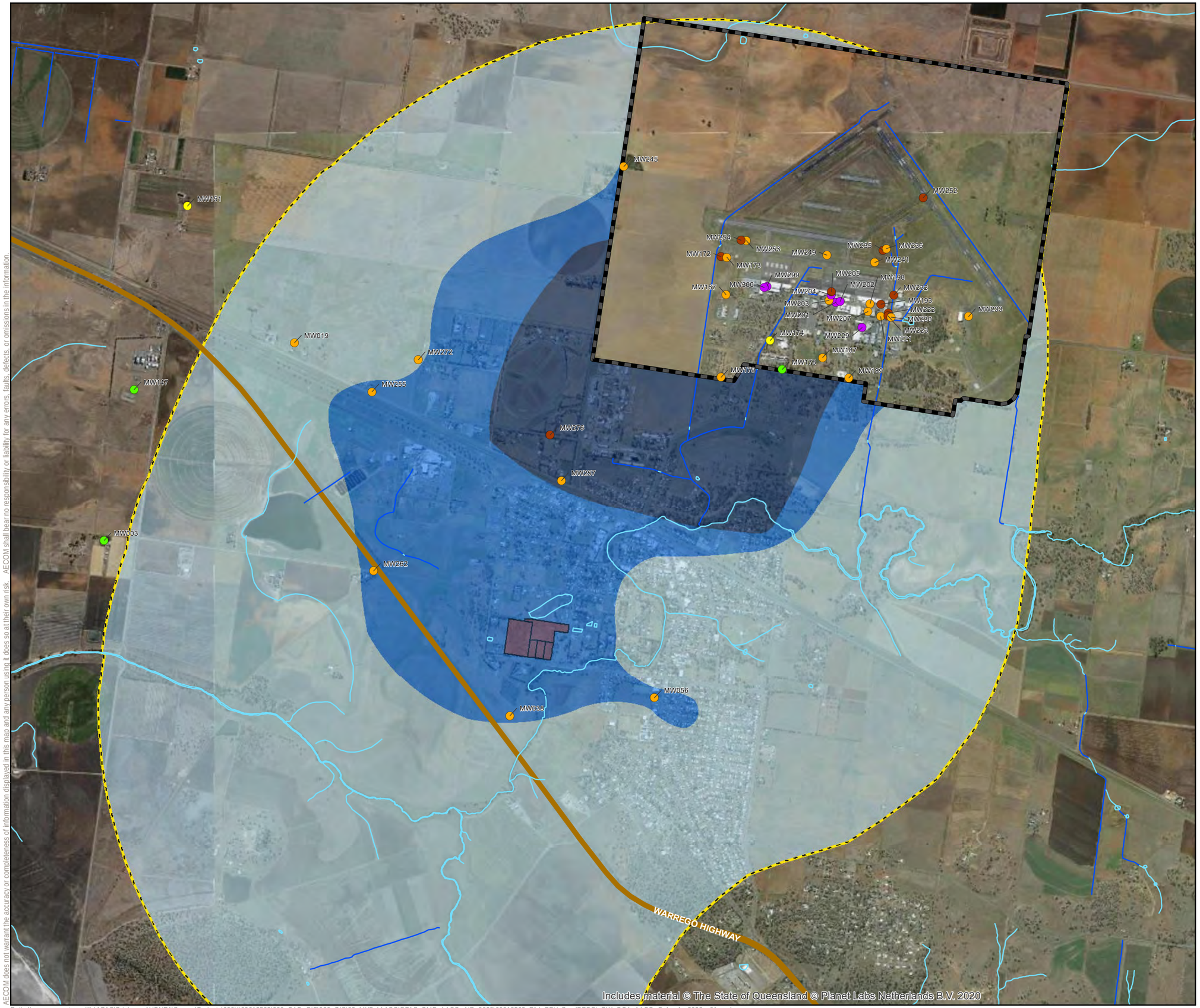
Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFOA CONCENTRATIONS IN GROUNDWATER IN OAKEY CREEK ALLUVIUM AND MAIN RANGE VOLCANICS AT SWARTZ BARRACKS IN APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	3/05/2024
VERSION:	1

FIGURE 13



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DATUM GDA 1994. PROJECTION MGA ZONE 56

N

0 0.25 0.5 1 km

1:28,000 (when printed at A3)

LEGEND

Groundwater Analytical Results: PFOS + PFHxS Concentrations (µg/L)

- >50
- 10-50
- 0.07-10
- LOR-0.07
- <LOR
- Drainage channel
- Watercourse/water body
- Former Landfill
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.
3. Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

Data sources:

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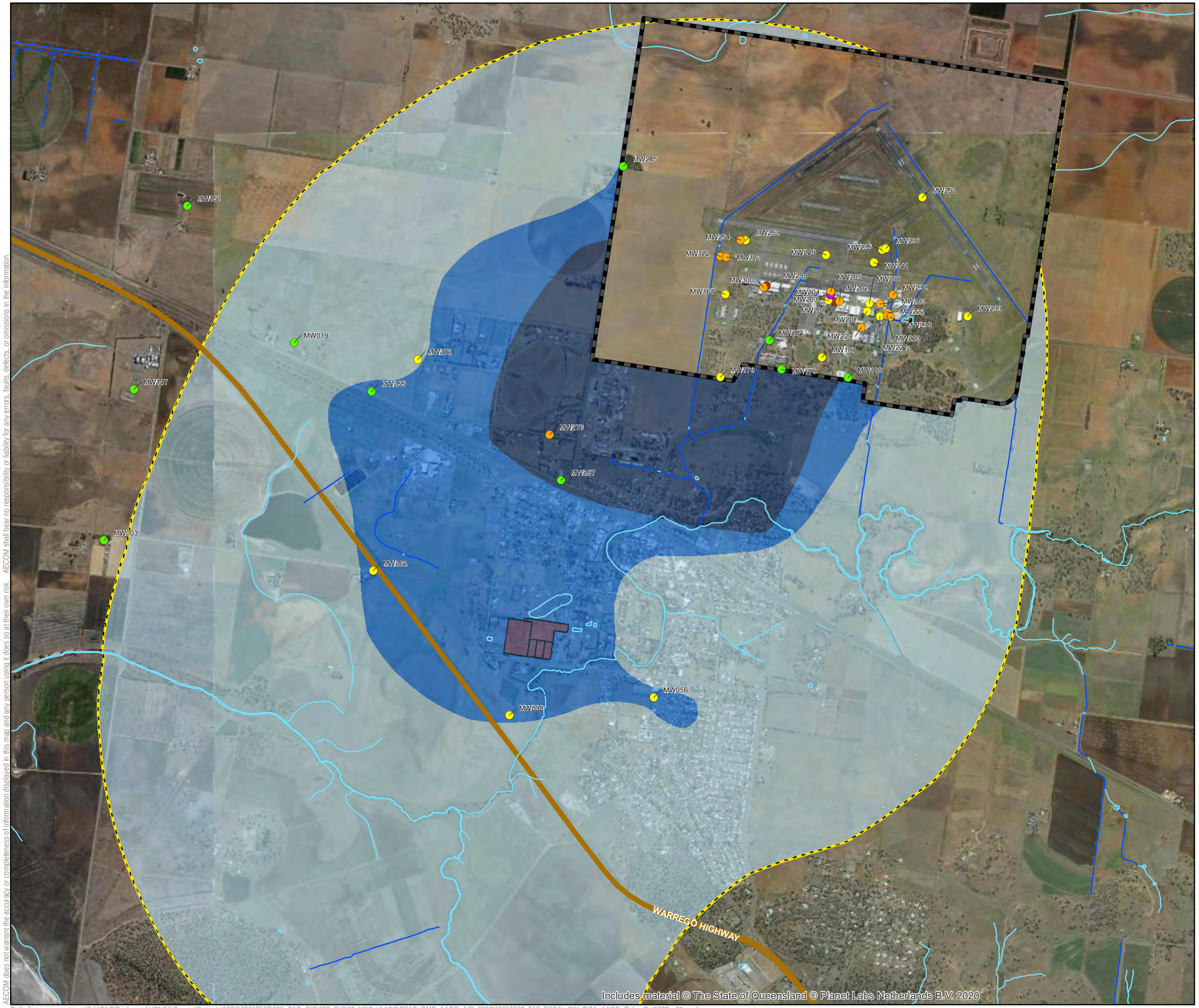
Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFHxS + PFOS CONCENTRATIONS IN GROUNDWATER IN OAKEY CREEK ALLUVIUM AND MAIN RANGE VOLCANICS AT SWARTZ BARRACKS IN OCTOBER 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	3/05/2024
VERSION:	1

FIGURE 14

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_AIR_2023\60612563_F14_PFHxSandPFOSinGW_OCA_AACO_OakeyApr2023_v01.mxd



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DATUM GDA 1994. PROJECTION MGA ZONE 56

N

0 0.25 0.5 1 km

1:28,000 (when printed at A3)

LEGEND

Groundwater Analytical Results: PFOA Concentrations (µg/L)

- >50
- 10-50
- 0.56-10
- LOR-0.56
- <LOR

Drainage channel
Watercourse/water body
Former Landfill
Management Zone 1
Management Zone 2
Management Zone 3
Management Area
Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.
3. Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

Data sources:

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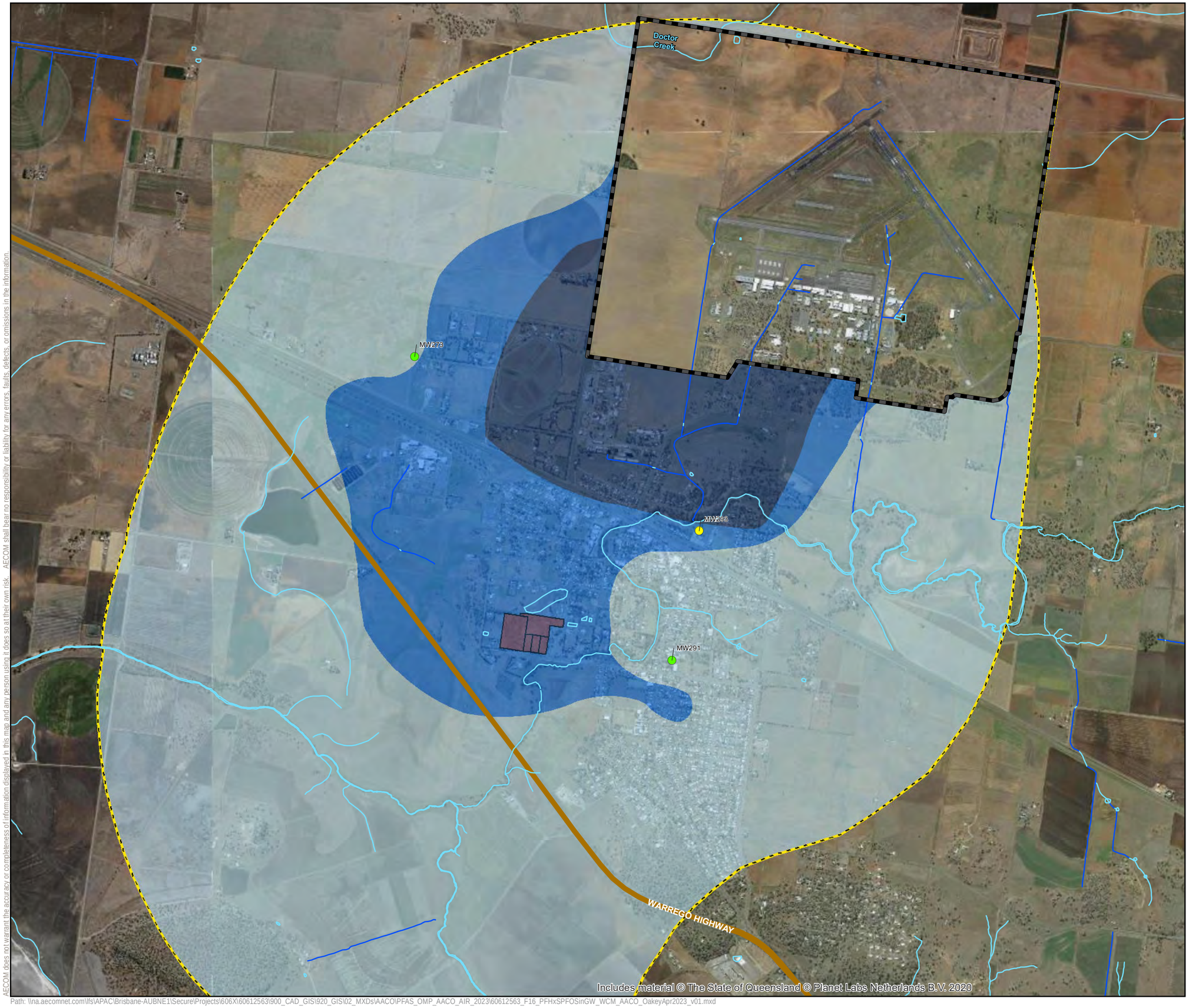
Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks Oakey

PFOA CONCENTRATIONS IN GROUNDWATER IN OAKEY CREEK ALLUVIUM AND MAIN RANGE VOLCANICS AT SWARTZ BARRACKS OAKEY IN OCTOBER 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	3/05/2024
VERSION:	1

FIGURE 15



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:28,000 (when printed at A3)

LEGEND

Groundwater Analytical Results:
Sum of PFHxS+PFOS Concentrations (µg/L)

- >50
- 10-50
- 0.07-10
- LOR-0.07
- <LOR
- Drainage channel
- Watercourse/water body
- Former Landfill
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.
3. Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

Data sources:

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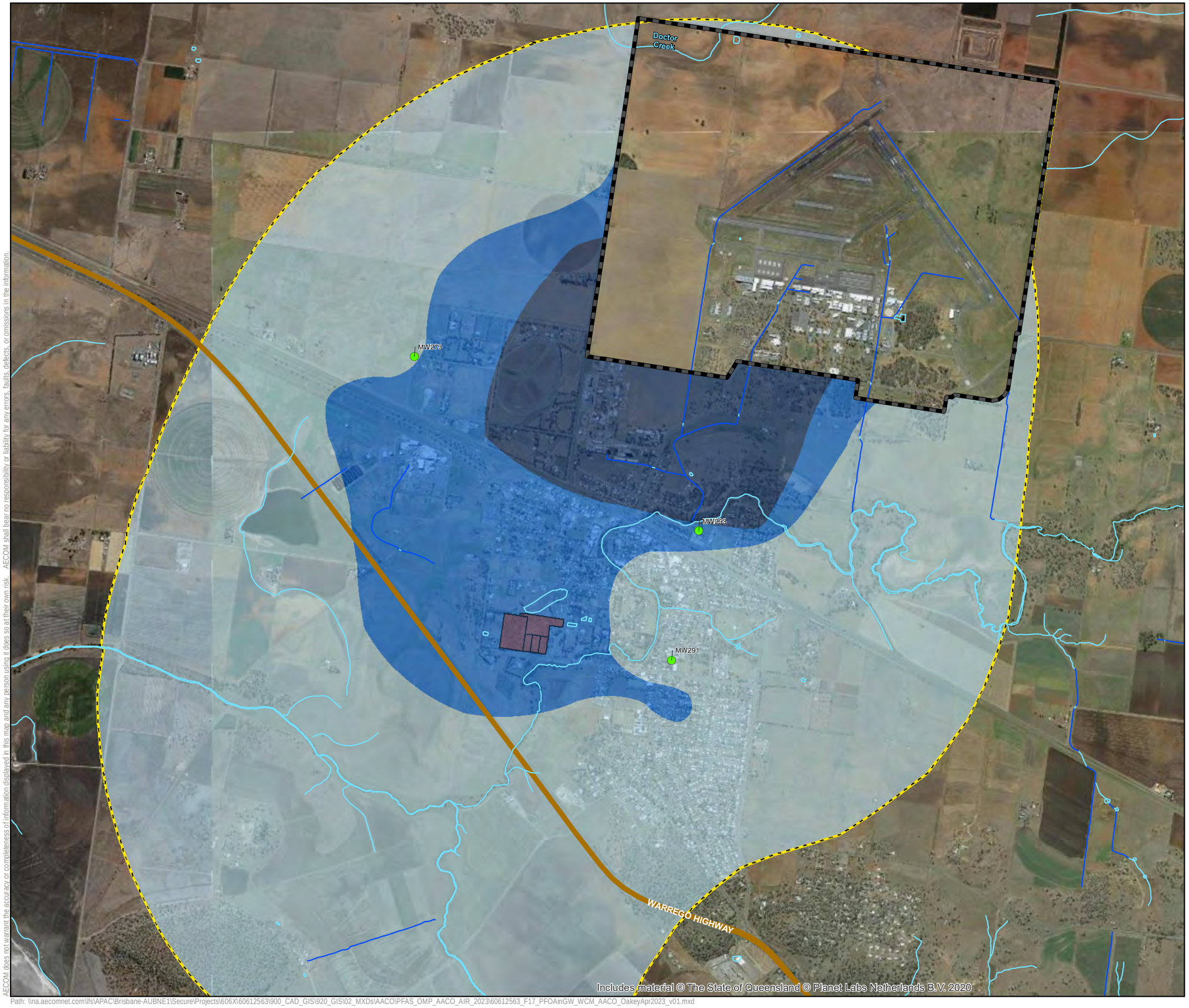
Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFHxS + PFOS CONCENTRATIONS IN GROUNDWATER IN WALLOON COAL MEASURES AT SWARTZ BARRACKS IN APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	3/05/2024
VERSION:	1

FIGURE 16



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DATUM GDA 1994. PROJECTION MGA ZONE 56

N

0 0.25 0.5 1 km

1:28,000 (when printed at A3)

LEGEND

Groundwater Analytical Results: PFOA Concentrations (µg/L)

- >50
- 10-50
- 0.56-10
- LOR-0.56
- <LOR
- Drainage channel
- Watercourse/water body
- Former Landfill
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.
3. Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFOA IN GROUNDWATER IN WALLOON COAL MEASURES AT SWARTZ BARRACKS IN APRIL 2023

PROJECT ID	60612563
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LAST MODIFIED	3/05/2024
VERSION:	1

FIGURE 17

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 10 20 40 60 Meters

1:1,800 (when printed at A3)

LEGEND
Groundwater Analytical Results:
PFOS + PFHxS Concentrations (µg/L)

- >50
- 10-50
- 0.07-10
- LOR-0.07
- <LOR
- Site Boundary

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFHxS + PFOS CONCENTRATIONS IN GROUNDWATER IN MAIN RANGE VOLCANICS AT BRYMAROO IN APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	
VERSION:	1

FIGURE 18

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A3 size

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 10 20 40 60 Meters

1:1,800 (when printed at A3)

LEGEND
Groundwater Analytical Results: PFOA Concentrations (µg/L)

- >50
- 10-50
- 0.56-10
- LOR-0.56
- <LOR
- Site Boundary

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFOA CONCENTRATIONS IN GROUNDWATER IN MAIN RANGE VOLCANICS AT BRYMAROO IN APRIL 2023

PROJECT ID	60612563
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VERSION:	1

FIGURE 19

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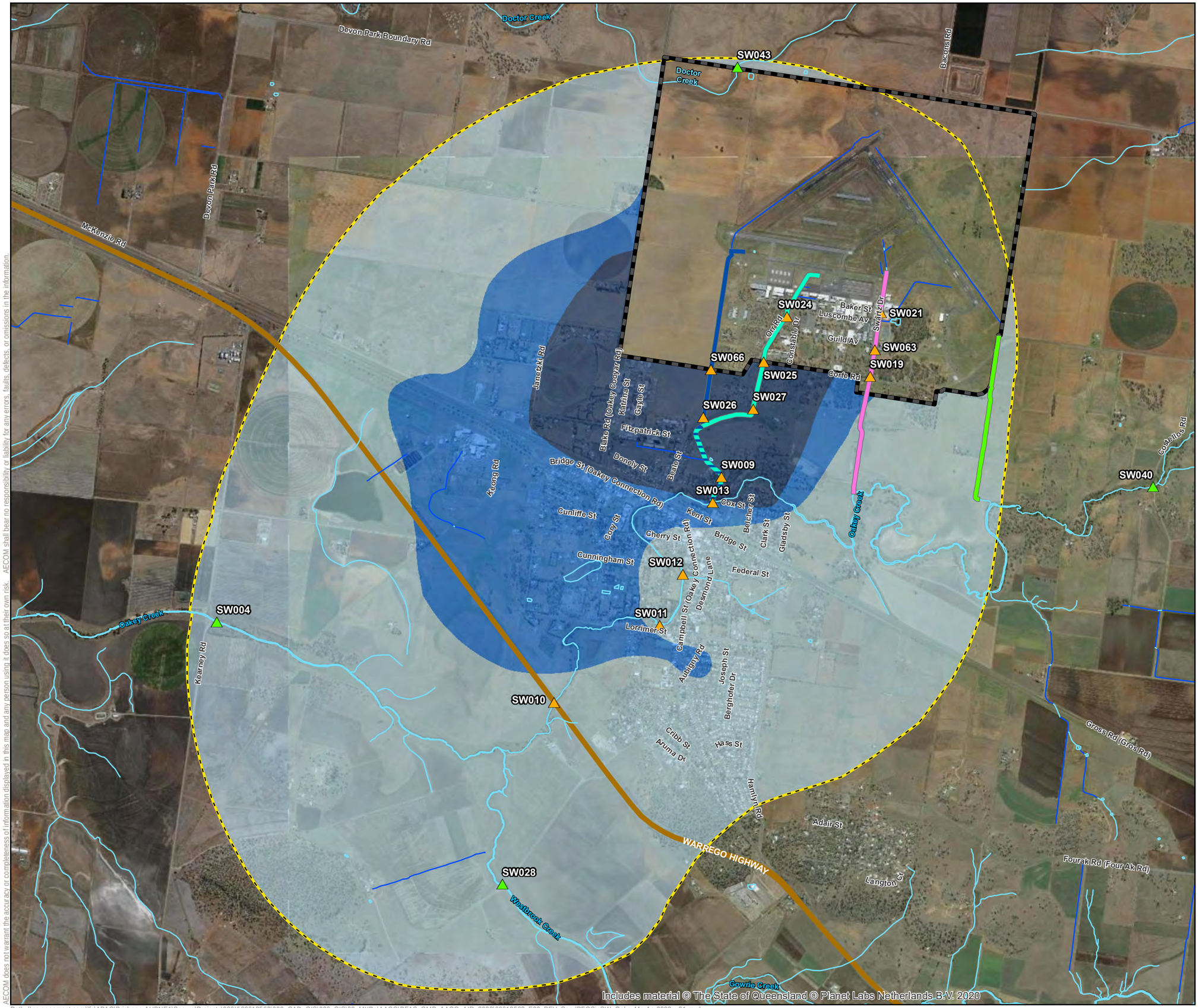
A3 size



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

LEGEND

Surface Water Analytical Results: PFOS + PFHxS Concentrations (µg/L)

- >50
- 10-50
- 0.07-10
- LOR-0.07
- <LOR
- Drainage channel
- Watercourse/water body
- Former Landfill
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.

Data sources:

Base Layers: ESRI Basemaps Online
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PFAS OMP - Swartz Barracks

PFHxS + PFOS CONCENTRATIONS
IN SURFACE WATER IN MARCH/APRIL 2023

PROJECT ID	60612563
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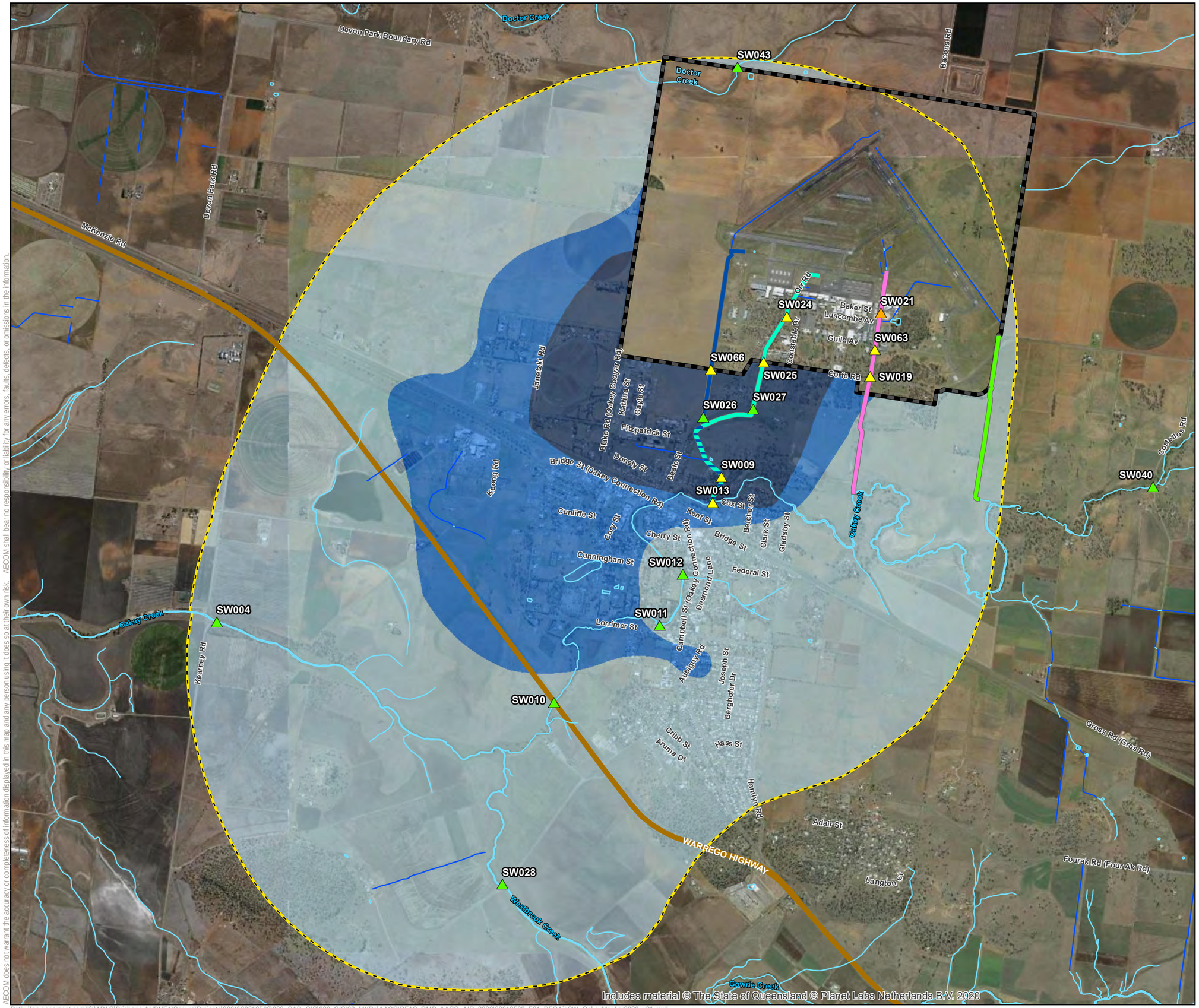
LAST MODIFIED	stencela; 5/03/2024
VERSION:	1

FIGURE
20



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

LEGEND

Surface Water Analytical Results: PFOA Concentrations (µg/L)

- >50
- 10-50
- 0.56-10
- LOR-0.56
- <LOR
- Drainage channel
- Watercourse/water body
- Former Landfill
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.

Data sources:

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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFOA CONCENTRATIONS
IN SURFACE WATER IN MARCH/APRIL 2023

PROJECT ID	60612563
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VERSION:	1

FIGURE
21

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

LEGEND

Sediment Analytical Results

PFHxS + PFOS Concentrations (mg/kg)

- >10
- 1 - 10
- 0.3 - 1
- LOR - 0.3
- < LOR

Drainage channel
Watercourse/water body
Former Landfill
Management Zone 1
Management Zone 2
Management Zone 3
Management Area
Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.

Data sources:

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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

PFHxS + PFOS CONCENTRATIONS
IN SEDIMENT IN MARCH/APRIL 2023

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FIGURE
22

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

LEGEND

Sediment Analytical Results

PFOA Concentrations (mg/kg)

- >10
- 1 - 10
- 0.3 - 1
- LOR - 0.3
- < LOR

Drainage channel
Watercourse/water body
Former Landfill
Management Zone 1
Management Zone 2
Management Zone 3
Management Area
Site Boundary

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.

Data sources:

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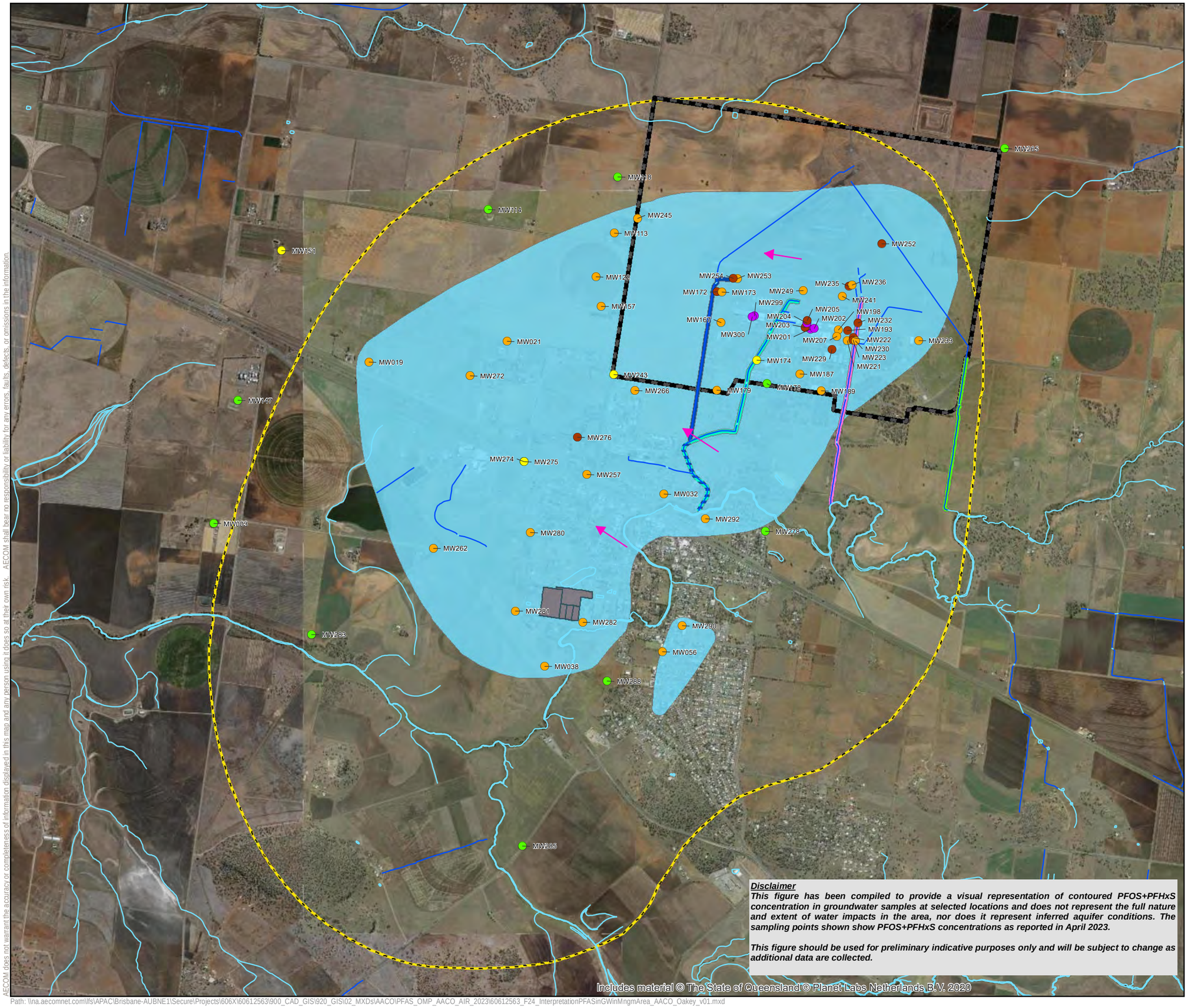
PFAS OMP - Swartz Barracks

PFOA CONCENTRATIONS
IN SEDIMENT IN MARCH/APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	stencela; 5/03/2024
VERSION:	1

FIGURE
23



Disclaimer

This figure has been compiled to provide a visual representation of contoured PFOS+PFHxS concentration in groundwater samples at selected locations and does not represent the full nature and extent of water impacts in the area, nor does it represent inferred aquifer conditions. The sampling points shown show PFOS+PFHxS concentrations as reported in April 2023.

This figure should be used for preliminary indicative purposes only and will be subject to change as additional data are collected.

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:34,000 (when printed at A3)

LEGEND

Groundwater Analytical Results: PFOS + PFHxS Concentrations (µg/L)

- >50
- 10-50
- 0.07-10
- LOR-0.07
- <LOR

Interpreted PFOS+PFHxS (µg/L) in groundwater

- 0.07
- Interpreted groundwater flow direction
- Drainage channel
- Watercourse/water body
- Former Landfill
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Site Boundary
- Management Area

Notes

1. <LOR - Less than laboratory limit of reporting
2. Maximum concentration of primary and QC samples shown for locations where duplicates and triplicates collected.

Data sources:

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Ongoing Monitoring Report 2023,
PFAS OMP - Swartz Barracks

ESTIMATED EXTENT OF PFHXS + PFOS IN GROUNDWATER IN THE SWARTZ BARRACKS MANAGEMENT AREA

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	stencela; 3/05/2024
VERSION:	1

FIGURE 24

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Appendix B

Tables

Appendix B Tables

Property ID	Well ID	Date Hydrasleeve Installed	Date Well Sampled	Gauging Date	Depth to LNAPL (mbtoc)	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	Aquifer	Location	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_h (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
1435	MW001	19/04/2022	20/04/2022	19/04/2022	-	21.275	12.256	418.534	406.278	406.278	Damaged	MRV	Brymaroo	0.240	959.000	10.930	47.500	252.500	22.600	Clear	Clear	No odour	No sheen	HydraSleeve™. Slight damage to concrete collar.
1435	MW001	-	11/04/2023	11/04/2023	-	21.253	10.138	418.534	408.396	408.396	Good	MRV	Brymaroo	1.930	1309.000	11.600	132.100	337.100	21.000		Clear	No odour	No sheen	Bailer
1435	MW002	16/04/2021	19/04/2022	19/04/2022	-	20.530	6.837	418.219	411.382	411.382	Damaged	MRV	Brymaroo	1.910	1938.000	7.520	161.000	366.000	23.400	Clear	Clear	No odour	No sheen	HydraSleeve™. Slight damage to concrete collar.
1435	MW002	19/04/2022	11/04/2023	11/04/2023	-	20.524	9.761	418.219	408.458	408.458	Good	MRV	Brymaroo	0.710	1989.000	7.880	40.000	245.000	19.800	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW003	16/04/2021	19/04/2022	19/04/2022	-	20.300	10.971	418.054	407.083	407.083	Damaged	MRV	Brymaroo	0.470	1476.000	6.920	146.000	351.000	22.800	Clear	Clear	No odour	No sheen	Hydrasleeve™. Gatic collar is damaged.
1435	MW003	19/04/2022	11/04/2023	11/04/2023	-	20.360	10.243	418.054	407.811	407.811	Good	MRV	Brymaroo	0.660	1429.000	7.050	154.300	359.300	20.500	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW004	16/04/2021	19/04/2022	19/04/2022	-	24.690	13.128	417.378	404.250	404.250	Good	MRV	Brymaroo	3.360	1390.000	6.990	154.600	359.600	22.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW004	19/04/2022	11/04/2023	11/04/2023	-	24.750	9.396	417.378	407.982	407.982	Good	MRV	Brymaroo	0.690	135.700	7.180	163.400	368.400	19.600	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW005	19/04/2022	20/04/2022	19/04/2022	-	26.925	12.346	417.850	405.504	405.504	Good	MRV	Brymaroo	0.500	1111.000	8.030	109.500	314.500	22.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW005	-	11/04/2023	11/04/2023	-	26.576	10.159	417.850	407.691	407.691	Good	MRV	Brymaroo	1.800	1142.000	7.650	125.100	330.100	19.100	Medium	Clear	No odour	No sheen	Bailer
1435	MW006	16/04/2021	20/04/2022	20/04/2022	-	27.155	10.588	416.459	405.871	405.871	Good	MRV	Brymaroo	0.360	1128.000	7.260	169.500	374.500	22.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW006	20/04/2022	11/04/2023	11/04/2023		27.160	8.631	416.459	407.828	407.828	Good	MRV	Brymaroo	1.500	1224.000	7.600	154.000	359.000	20.900	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW007	16/04/2021	19/04/2022	19/04/2022	-	24.995	9.895	416.413	406.518	406.518	Good	MRV	Brymaroo	0.530	1415.000	7.010	139.700	344.700	22.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW007	19/04/2022	11/04/2023	11/04/2023	-	24.930	10.057	416.413	406.356	406.356	Good	MRV	Brymaroo	0.370	910.000	7.390	155.300	360.300	20.400	Low	Clear	No odour	No sheen	HydraSleeve™
1435	MW008	16/04/2021	19/04/2022	19/04/2022	-	22.095	8.346	415.192	406.846	406.846	Good	MRV	Brymaroo	0.540	2095.000	6.770	155.700	360.700	21.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW008	19/04/2022	11/04/2023	11/04/2023	-	22.068	9.192	415.192	406.000	406.000	Good	MRV	Brymaroo	0.530	2457.000	6.980	168.800	373.800	20.400	Medium	Cloudy	No odour	No sheen	HydraSleeve™
1435	MW009	16/04/2021	19/04/2022	19/04/2022	-	25.910	12.824	417.989	405.165	405.165	Good	MRV	Brymaroo	1.150	1844.000	6.740	151.800	356.800	23.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW009	19/04/2022	11/04/2023	11/04/2023	-	25.910	10.243	417.989	407.746	407.746	Good	MRV	Brymaroo	1.030	1872.000	6.690	156.200	361.200	20.900	Low	Clear	No odour	No sheen	HydraSleeve™
1435	MW010	16/04/2021	19/04/2022	19/04/2022	-	26.910	13.789	418.024	404.235	404.235	Good	MRV	Brymaroo	0.290	1049.000	7.720	125.600	330.600	22.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW010	19/04/2022	11/04/2023	11/04/2023	-	26.792	10.059	418.024	407.965	407.965	Good	MRV	Brymaroo	0.760	1377.000	7.660	164.800	369.800	20.700	Low	Clear	No odour	No sheen	HydraSleeve™
1435	MW011	16/04/2021	19/04/2022	19/04/2022	-	27.490	14.033	418.289	404.256	404.256	Good	MRV	Brymaroo	0.160	1138.000	7.490	148.400	353.400	22.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW011	19/04/2022	11/04/2023	11/04/2023	-	27.300	10.312	418.289	407.977	407.977	Good	MRV	Brymaroo	0.610	1187.000	7.450	174.900	379.900	20.900	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW012	19/04/2022	20/04/2022	19/04/2022	-	26.715	13.509	418.340	404.831	404.831	Good	MRV	Brymaroo	0.420	1709.000	8.280	102.800	307.800	23.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW012	-	11/04/2023	11/04/2023	-	26.736	10.565	418.340	407.775	407.775	Good	MRV	Brymaroo	2.720	1554.000	6.980	137.200	342.200	17.100	Low	Clear/ brownish	No odour	No sheen	Bailer
1435	MW013	16/04/2021	19/04/2022	19/04/2022	-	23.890	9.417	415.927	406.510	406.510	Good	MRV	Brymaroo	0.670	2005.000	7.030	171.700	376.700	21.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
1435	MW013	19/04/2022	Not sampled	11/04/2023	-	-					-	MRV	Brymaroo	-	-	-	-	-	-	-	-	-	-	Not found
0207	MW003	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.740	2448.000	7.290	83.700	288.700	26.800	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW003	None- tap	2/11/2022	None-tap		-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.750	2605.000	7.100	96.200	301.200	20.600	Medium	Clearish/ brown	No odour	No sheen	Tap sample.
0207	MW003	None-tap	13/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.550	1884.000	7.420	134.800	339.800	25.200	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW003	None-tap	18/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.860	2197.000	7.310	139.600	344.600	28.300	Medium	Clear	No odour	No sheen	Tap sample
0207	MW003	None-tap	25/10/2023	None-tap	-	-	Not gauged - pumping equipment installed.					OCA	Off-base	2.400	2444.000	7.280	-131.800	73.200	37.200	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW019	None-tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.170	2648.000	7.150	110.200	315.200	23.500	Low	Clear	No odour	No sheen	Tap sample.
0207	MW019	None-tap	27/10/2022	None-tap		-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.980	2723.000	7.240	74.600	279.600	25.300	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW019	None-tap	12/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.850	2135.000	7.300	127.600	332.600	24.100	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW019	None-tap	17/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.760	2290.000	7.210	100.800	305.800	28.800	Medium	Brown	No odour	No sheen	Tap sample
0207	MW019	None-tap	25/10/2023	None-tap	-	-	Not gauged - pumping equipment installed.					OCA	Off-base	3.500	2187.000	7.120	-0.400	204.600	25.800	Low	Brown	No odour	No sheen	Tap sample.
0207	MW021	None-tap	12/04/0222	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.450	1566.000	7.300	128.400	333.400	25.400	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW021	None-tap	17/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.930	1583.000	7.270	90.500	295.500	22.300	Medium	Clear	No odour	No sheen	Tap sample
0207	MW022	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Stakeholder unable to be contacted.
0207	MW022	None-tap	12/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.700	1605.000	7.570	115.400	320.400	25.800	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW031	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Stakeholder unable to be contacted.
0207	MW032	None-tap	21/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.860	878.000	7.560	134.100	339.100	23.000	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW032	None-tap	17/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	0.500	894.000	7.340	182.000	387.000	30.200	Medium	Clear	No odour	No sheen	Tap sample
0207	MW038	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.100	1047.000	8.610	43.400	248.400	24.100	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW038	None- tap	3/11/2022	None-tap			Not gauged - pumping equipment installed.				-	OCA	Off-base	0.790	1056.000	8.050	72.100	277.100	19.900	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW038	None- tap	None-tap	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Not sampled- stakeholder declined.
0207	MW038	None- tap	13/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	-	-	-	-	-	-	Medium	Clear	No odour	No sheen	Tap sample
0207	MW038	None- tap	27/10/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.570	886.000	7.730	134.100	339.100	22.200	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW056	13/04/2021	14/10/2021	14/10/2021	-	20.680	10.246	Unknown	-	-	Good	OCA	Off-base	2.510	2343.000	6.900	97.800	302.800	23.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW056	13/04/2021	12/04/2022	12/04/2022		20.460	7.271	-	-	-	Good	OCA	Off-base	2.180	2972.000	7.010	148.200	353.200	21.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW056	17/04/2022	27/10/2022	-	-	-	-	-	-		Good	OCA	Off-base	3.680	2321.000	7.130	108.400	313.400	24.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW056	27/10/2022	17/04/2023	17/04/2023		21.295	8.042	-	-	-	Good	OCA	Off-base	3.170	2038.000	6.980	51.700	256.700	21.200	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW056	17/04/2022	25/10/2023	25/10/2023	-	21.250	9.125	-	-	-	Good	OCA	Off-base	3.010	2021.000	6.970	19.900	224.900	22.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW113	None-tap	12/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.720	1541.000	7.070	112.100	317.100	24.600	Low	Light brown	No odour	No sheen	Tap sample.
0207	MW113	None-tap	20/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.440	1539.000	7.070	67.700	272.700	22.200	Medium	Clear	No odour	No sheen	Tap sample
0207	MW114	None-tap	20/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.490	1448.000	7.260	161.000	366.000	22.100	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW114	None-tap	20/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	4.220	1540.000	7.000	94.200	299.200	22.200	Medium	Clear	No odour	No sheen	Tap sample
0207	MW118	None-tap	20/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.770	1492.000	7.300	160.700	365.700	22.200	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW118	None-tap	20/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.550	1595.000	7.170	91.100	296.100	22.000	Medium	Clear	No odour	No sheen	Tap sample
0207	MW122	None-tap	20/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	4.410	1459.000	7.440	161.400	366.400	21.500	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW122	None-tap	20/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	4.570	1638.000	7.170	88.100	293.100	21.800	Medium	Clear /brownish	No odour	No sheen	Tap sample
0207	MW132	None-tap	12/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.370	567.000	7.810	117.000	322.000	25.000	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW134	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.170	2491.000	7.160	-21.100	183.900	24.100	Low	Orange/brown	No odour	No sheen	Tap sample.
0207	MW134	None- tap	2/11/2022	None-tap			Not gauged - pumping equipment installed.					OCA	Off-base	3.010	2712.000	7.170	75.900	280.900	18.900	Medium	Clear/brown	No odour	No sheen	Tap sample.
0207	MW134	None- tap	14/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.010	1600.000	7.490	148.300	353.300	20.300	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW134	None- tap	19/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.850	2113.000	7.100	92.100	297.100	20.600	Medium	Brown	No odour	No sheen	Tap sample
0207	MW134	None- tap	25/10/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.700	2068.000	7.040	-187.700	17.300	25.000	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW147	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.360	3689.000	7.020	-87.200	117.800	22.300	Medium	Clear		No sheen	Tap sample.
0207	MW147	None- tap	12/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.250	3368.000	7.160	120.900	325.900	23.300	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW147	None- tap	17/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.250	3633.000	7.130	89.800	294.800	25.200	Medium	Brown	No odour	No sheen	Tap sample
0207	MW147	None- tap	25/10/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	1.750	3970.000	7.320	-100.100	104.900	38.800	Clear	Clear	--	--	Tap sample
0207	MW149	None- tap	12/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.700	1840.000	7.850	130.100	335.100	22.600	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW149	None- tap	20/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.170	1930.000	7.360	63.300	268.300	21.800	Medium	Clear	Organic odour	No sheen	Tap sample
0207	MW151	None- tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	4.240	2020.000	7.170	83.000	288.000	22.200	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW151	None-tap	27/10/2022	None-tap		-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.400	2221.000	7.190	117.000	142.700	22.600	Clear	Clear	No odour	No sheen	Tap sample. Bore had been running for roughly an hour before sampling.
0207	MW151	None-tap	14/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.580	1636.000	7.520	125.900	142.700	21.500	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW151	None-tap	17/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	2.740	1909.000	7.060	182.400	387.400	22.800	Medium	Clear	No odour	No sheen	Tap sample
0207	MW151	None-tap	16/08/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	4.940	2018.000	-	888.500	1093.500	22.000	Low	Clear	No odour	No sheen	Tap sample. pH meter malfunctioned
0207	MW151	None-tap	25/10/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	6.460	1897.000	6.990	-125.700	79.300	22.200	Clear	Clear	No odour	No sheen	Tap sample. Bore had been running for roughly an hour before sampling.
0207	MW157	None-tap	20/04/2022	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.110	1810.000	7.290	162.600	367.600	22.100	Clear	Clear	No odour	No sheen	Tap sample.
0207	MW157	None-tap	20/04/2023	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	3.620	1915.000	7.210	89.100	294.100	22.000	Medium	Clear	No odour	No sheen	Tap sample
0207	MW160	None-tap	14/10/2021	None-tap	-	-	Not gauged - pumping equipment installed.				-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Stakeholder unable to be contacted.
0207	MW167	17/04/2021	11/10/2021	11/10/2021	-	15.270	13.722	402.428	388.706	388.706	Good	OCA	On-base	6.590	1918.000	7.410	130.900	335.900	23.100	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW167	17/04/2021	17/04/2022	17/04/2022	-	-	12.633	402.428	389.795	389.795	Good	OCA	On-base	0.730	1749.000	7.240	127.700	332.700	22.500	Clear	Clear	No odour	No sheen	HydraSleeve™.

Property ID	Well ID	Date Hydrasleeve Installed	Date Well Sampled	Gauging Date	Depth to LNAPL (mbtoc)	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	Aquifer	Location	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_h (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	MW167	26/10/2022	27/10/2022	27/10/2022	-	15.860	12.020	402.428	390.408	390.408	Good	OCA	On-base	-	-	-	-	-	-	Clear	Clear	No odour	No sheen	HydraSleeve™Water quality parameters were not collected due to the loss of some of sample volume.
0207	MW167	27/10/2022	12/04/2023	12/04/2023	-	15.164	12.002	402.428	390.426	390.426	Good	OCA	On-base	2.960	1808.000	7.170	77.300	282.300	15.700	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW167	12/04/2023	24/10/2023	24/10/2023	-	15.160	12.151	402.428	390.277	390.277	Good	OCA	On-base	2.210	2085.000	6.950	147.700	352.700	24.000	Medium	Clear/Cloudy	Organic odour	No sheen	HydraSleeve™.
0207	MW172	14/04/2021	13/10/2021	13/10/2021	-	17.170	14.247	402.818	388.571	388.571	Good	OCA	On-base	2.610	1546.000	7.120	86.600	291.600	21.900	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW172	14/04/2021	17/04/2022	17/04/2022	-	17.160	13.115	402.818	389.703	389.703	Good	OCA	On-base	2.330	746.000	7.430	130.800	335.800	21.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW172	17/04/2022	26/10/2022	26/10/2022	-	17.160	12.527	402.818	390.291	390.291	Good	OCA	On-base	2.700	1311.000	7.450	88.500	293.500	22.600	Medium	Brownish/Clear	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW172	26/10/2022	12/04/2023	12/04/2023	-	17.145	12.534	402.818	390.284	390.284	Good	OCA	On-base	3.690	1359.000	7.360	90.200	295.200	17.400	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW172	12/04/2023	24/10/2023	24/10/2023	-	17.140	12.638	402.818	390.180	390.180	Good	OCA	On-base	4.080	1625.000	7.220	10.500	215.500	26.900	Medium	Brown	No odour	No sheen	HydraSleeve™.
0207	MW173	14/04/2021	13/10/2021	13/10/2021	-	17.860	14.464	403.262	388.798	388.798	Good	OCA	On-base	3.280	1683.000	9.670	86.400	291.400	21.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW173	14/04/2021	17/04/2022	17/04/2022	-	17.650	13.520	403.262	389.742	389.742	Good	OCA	On-base	2.530	1502.000	7.230	144.200	349.200	21.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW173	17/04/2022	24/10/2022	24/10/2022	-	17.650	12.998	403.262	390.264	390.264	Good	OCA	On-base	3.580	2385.000	7.290	64.700	269.700	23.800	Med-high	Cloudy/brown	No odour	No sheen	HydraSleeve™. Lots of brown suspended sediment.
0207	MW173	24/10/2022	12/04/2023	12/04/2023	-	17.834	12.925	403.262	390.337	390.337	Good	OCA	On-base	3.770	1823.000	7.320	91.600	296.600	16.300	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW173	12/04/2023	24/10/2023	24/10/2023	-	17.850	13.029	403.262	390.233	390.233	Good	OCA	On-base	3.770	2093.000	7.180	63.400	268.400	29.700	Medium	Clear/brown	No odour	No sheen	HydraSleeve™.
0207	MW174	11/10/2021	13/10/2021	11/10/2021	-	23.120	14.962	404.072	389.110	389.110	Good	OCA	On-base	2.730	2611.000	7.080	55.200	260.200	22.600	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW174	14/04/2021	17/04/2022	17/04/2022	-	29.990	14.014	404.072	390.058	390.058	Good	OCA	On-base	0.790	2158.000	7.470	138.600	343.600	20.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW174	27/10/2022	2/11/2022	2/11/2022	-	29.990	13.366	404.072	390.706	390.706	Good	OCA	On-base	1.420	3725.000	7.320	78.900	283.900	20.500	Clear	Clear	Weak sulfuric	No sheen	HydraSleeve™. Minimal settled black/brown sediment.
0207	MW174	2/11/2022	13/04/2023	13/04/2023	-	30.191	13.261	404.072	390.811	390.811	Good	OCA	On-base	1.010	3215.000	7.150	133.900	338.900	19.800	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW174	13/04/2023	24/10/2023	24/10/2023	-	31.290	13.358	404.072	390.714	390.714	Good	OCA	On-base	1.150	3412.000	7.000	59.200	264.200	26.200	Low	Clear	Weak sulfuric	No sheen	HydraSleeve™.
0207	MW178	17/04/2021	11/10/2021	11/10/2021	-	17.410	14.062	403.513	389.451	389.451	Good	OCA	On-base	1.020	2972.000	7.150	-107.600	97.400	26.600	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW178	17/04/2021	17/04/2022	17/04/2022	-	17.400	14.370	403.513	389.143	389.143	Good	OCA	On-base	0.610	2149.000	7.380	141.500	346.500	21.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW178	27/10/2022	2/11/2022	2/11/2022	-	17.400	12.551	403.513	390.962	390.962	Good	OCA	On-base	0.700	4664.000	7.050	68.600	273.600	20.400	Clear	Clear	No odour	No sheen	HydraSleeve™. Some black/grey settled sediment.
0207	MW178	2/11/2022	13/04/2023	13/04/2023	-	18.426	12.402	403.513	391.111	391.111	Good	OCA	On-base	0.570	3912.000	6.960	116.100	321.100	18.600	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW178	13/04/2023	24/10/2023	24/10/2023	-	17.600	12.456	403.513	391.057	391.057	Good	OCA	On-base	2.190	8977.000	7.010	60.500	265.500	26.300	Medium	clear	Organic odour	No sheen	HydraSleeve™.
0207	MW179	16/04/2021	11/10/2021	11/10/2021	-	19.420	14.464	403.000	388.536	388.536	Good	OCA	On-base	1.530	3996.000	7.280	-23.100	181.900	23.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW179	16/04/2021	18/04/2022	18/04/2022	-	20.980	13.699	403.006	389.307	389.307	Good	OCA	On-base	0.260	3529.000	7.930	120.300	325.300	22.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW179	27/10/2022	3/11/2022	3/11/2022	-	20.980	12.947	403.006	390.059	390.059	Good	OCA	On-base	4.300	4630.000	7.090	70.200	275.200	21.400	Low	Cloudy	No odour	No sheen	HydraSleeve™.
0207	MW179	3/11/2022	13/04/2023	13/04/2023	-	20.906	12.818	403.006	390.188	390.188	Good	OCA	On-base	0.410	3974.000	7.000	143.900	348.900	19.200	Medium	Clear	Weak organic odour	No sheen	HydraSleeve™
0207	MW179	13/04/2023	24/10/2023	24/10/2023	-	20.980	12.781	403.006	390.225	390.225	Good	OCA	On-base	0.970	4132.000	6.870	-142.600	62.400	28.400	Medium	clear	No odour	No sheen	HydraSleeve™.
0207	MW187	17/04/2021	13/10/2021	13/10/2021	-	18.310	14.934	404.576	389.642	389.642	Good	OCA	On-base	0.750	3698.000	6.560	63.000	268.000	23.900	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW187	17/04/2021	11/04/2022	11/04/2022	-	18.355	14.000	404.576	390.576	390.576	Good	OCA	On-base	1.380	2173.000	6.710	152.700	357.700	23.600	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW187	19/04/2022	27/10/2022	27/10/2022	-	18.355	13.366	404.576	391.210	391.210	Good	OCA	On-base	0.980	4310.000	6.880	93.400	298.400	24.900	Low	Cloudy	No odour	No sheen	HydraSleeve™. Settled grey sediment.
0207	MW187	27/10/2022	13/04/2023	13/04/2023	-	18.335	13.208	404.576	391.368	391.368	Good	OCA	On-base	0.820	3857.000	6.940	142.700	347.700	18.900	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW187	13/04/2023	26/10/2023	26/10/2023	-	18.310	13.321	404.576	391.255	391.255	Good	OCA	On-base	2.190	8977.000	7.010	6.050	211.050	26.300	Medium	clear	Organic odour	No sheen	HydraSleeve™.
0207	MW189	17/04/2021	13/10/2021	13/10/2021	-	21.030	15.116	405.431	390.315	390.315	Good	OCA	On-base	1.470	4292.000	6.740	49.400	254.400	24.000	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW189	17/04/2021	11/04/2022	11/04/2022	-	21.070	13.865	404.652	390.787	390.787	Good	OCA	On-base	0.710	3432.000	6.930	132.900	337.900	22.900	Low	Yellow-brown	No odour	No sheen	HydraSleeve™.
0207	MW189	18/04/2022	27/10/2022	27/10/2022	-	21.070	13.209	404.652	391.443	391.443	Good	OCA	On-base	1.670	5246.000	6.840	47.600	252.600	24.600	High	Cloudy / brown / gre	No odour	No sheen	HydraSleeve™. Suspended brown sediment and settled grey sediment.
0207	MW189	27/10/2022	13/04/2023	13/04/2023	-	21.070	13.032	404.652	391.620	391.620	Good	OCA	On-base	0.370	4825.000	6.750	109.200	314.200	17.300	Low	Clear	Weak sulfuric odour	No sheen	HydraSleeve™
0207	MW189	13/04/2023	26/10/2023	26/10/2023	-	21.001	13.124	404.652	391.528	391.528	Good	OCA	On-base	0.590	4824.000	6.740	-128.600	76.400	21.800	Clear	Clear	Organic odour	No sheen	HydraSleeve™.
0207	MW193	14/04/2021	11/10/2021	11/10/2021	-	19.650	15.723	405.676	389.953	389.953	Good	OCA	On-base	0.460	5676.000	6.920	-162.800	42.200	23.400	Clear	Clear	HC odour	Oil globules / sheer	HydraSleeve™.
0207	MW193	14/04/2021	17/04/2022	17/04/2022	14.488	19.740	14.585	405.630	391.045	391.117	Good	OCA	On-base	0.250	4934.000	6.850	91.900	296.900	23.100	Clear	Clear	HC odour	Heavy sheen	HydraSleeve™. 97 mm LNAPL.
0207	MW193	25/10/2022	26/10/2022	26/10/2022	13.859	19.740	13.951	405.630	391.679	391.747	Good	OCA	On-base	0.860	5652.000	6.980	34.200	239.200	25.300	Low	Clear	Strong Kerosene/HC odour	Heavy sheen	HydraSleeve™. 92 mm LNAPL. Min settled grey sediment.
0207	MW193	26/10/2022	12/04/2023	12/04/2023	13.843	19.740	13.943	405.630	391.687	391.761	Good	OCA	On-base	0.450	4062.000	6.950	55.100	260.100	22.100	Medium	Clear	Weak hydrocarbon odour	LNAPL present	HydraSleeve™
0207	MW193	12/04/2023	24/10/2023	24/10/2023	14.244	21.630	14.339	405.630	391.291	391.361	Good	OCA	On-base	1.400	4598.000	6.750	32.800	237.800	29.200	Medium	Clear/Cloudy	Weak kerosene/HC odour	Sheen	HydraSleeve™.
0207	MW198	14/04/2021	11/10/2021	11/10/2021	-	13.470	7.603	405.505	397.902	397.902	Good	OCA	On-base	0.540	2118.000	6.930	21.300	226.300	23.100	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW198	14/04/2021	17/04/2022	17/04/2022	-	13.480	6.536	405.505	398.969	403.806	Good	OCA	On-base	2.580	622.000	7.030	114.200	319.200	23.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW198	19/04/2022	25/10/2022	25/10/2022	-	13.500	6.308	405.505	399.197	399.197	Good	OCA	On-base	1.260	4388.000	7.130	150.700	355.700	23.600	Clear	Clear	No odour	No sheen	HydraSleeve™ . Some settled brown sediment.
0207	MW198	25/10/2022	12/04/2023	12/04/2023	-	13.475	6.732	405.505	398.773	398.773	Good	OCA	On-base	3.280	634.000	7.170	201.200	406.200	21.000	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW198	12/04/2023	24/10/2023	24/10/2023	-	13.470	7.901	405.505	397.604	397.604	Good	OCA	On-base	3.650	600.000	6.880	44.600	249.600	26.100	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW201	15/04/2021	12/10/2021	12/10/2021	-	19.860	16.394	404.900	388.506	388.506	Good	OCA	Off-base	1.040	3824.000	6.670	51.800	256.800	22.100	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW201	15/04/2021	17/04/2022	17/04/2022	-	19.830	14.164	404.800	390.636	390.636	Good	OCA	Off-base	0.560	3642.000	6.740	136.500	341.500	23.100	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW201	20/04/2022	25/10/2022	25/10/2022	-	19.830	13.727	404.800	391.073	391.073	Good	OCA	Off-base	2.240	6928.000	6.690	162.700	367.700	22.600	Med-high	Cloudy/brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW201	25/10/2022	12/04/2023	12/04/2023	-	19.852	13.621	404.800	391.179	391.179	Good	OCA	Off-base	1.020	6540.000	6.780	210.500	415.500	22.200	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW201	12/04/2023	25/10/2023	25/10/2023	-	19.840	13.736	404.800	391.064	391.064	Good	OCA	Off-base	2.160	5951.000	6.790	92.400	297.400	20.900	Medium	Cloudy	No odour	No sheen	HydraSleeve™. Gatic cover/concrete is cracked.
0207	MW202	17/04/2021	12/10/2021	12/10/2021	-	19.180	15.482	405.100	389.618	389.618	Good	OCA	On-base	0.250	3533.000	6.890	45.000	250.000	22.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW202	17/04/2021	17/04/2022	17/04/2022	-	19.120	14.028	405.000	390.972	390.972	Good	OCA	On-base	0.690	2768.000	6.990	106.600	311.600	23.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW202	15/04/2022	24/10/2022	24/10/2022	-	19.120	13.648	405.000	391.352	391.352	Good	OCA	On-base	1.600	3145.000	7.240	104.300	309.300	28.100	Clear	Clear	No odour	No sheen	HydraSleeve™. Some suspended grey sediment.
0207	MW202	24/10/2022	12/04/2023	12/04/2023	-	19.114	13.646	405.000	391.354	391.354	Damaged	OCA	On-base	0.270	2379.000	6.970	214.500	419.500	22.300	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW202	12/04/2023	25/10/2023	25/10/2023	-	19.190	13.806	405.000	391.194	391.194	Damaged	OCA	On-base	0.570	2512.000	6.860	86.700	291.700	21.500	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW203	15/04/2021	12/10/2021	12/10/2021	-	20.100	15.602	405.100	389.498	389.498	Good	OCA	On-base	4.300	2946.000	6.880	41.100	246.100	24.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW203	15/04/2021	17/04/2022	17/04/2022	-	20.110	14.064	405.100	391.036	391.036	Good	OCA	On-base	2.330	2611.000	6.870	147.100	352.100	23.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW203	15/04/2022	24/10/0222	24/10/2022	-	20.110	13.835	405.100	391.265	391.265	Good	OCA	On-base	2.190	4734.000	9.960	111.200	316.200	21.200	Low	Cloudy	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW203	24/10/0222	12/04/2023	12/04/2023	-	20.058	13.646	405.100	391.454	391.454	Good	OCA	On-base	2.420	2638.000	6.900	205.300	410.300	21.800	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW203	12/04/2023	24/10/2023	24/10/2023	-	20.120	13.713	405.100	391.387	391.387	Good	OCA	On-base	2.900	2775.000	6.870	48.200	253.200	26.400	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW204	17/04/2021	12/10/2021	12/10/2021	-	19.990	15.782	405.200	389.418	389.418	Good	OCA	On-base	4.280	5478.000	6.840	59.300	264.300	22.700	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW204	17/04/2021	20/04/2022	20/04/2022	-	19.970	14.464	405.200	390.736	390.736	Good	OCA	On-base	2.190	3831.000	7.050	172.900	377.900	21.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW204	16/04/2022	24/10/2022	24/10/2022	-	19.970	14.117	405.200	391.083	391.083	Good	OCA	On-base	-	-	-	-	-	-	Clear	Clear	No odour	No sheen	HydraSleeve™. Water quality parameters missed.
0207	MW204	24/10/2022	12/04/2023	12/04/2023	-	19.988	13.942	405.200	391.258	391.258	Good	OCA	On-base	2.400	4874.000	6.840	193.000	398.000	22.200	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW204	12/04/2023	24/10/2023	24/10/2023	-	19.980	14.003	405.200	391.197	391.197	Good	OCA	On-base	3.760	5870.000	6.900	56.200	261.200	26.900	Medium	Brown	No odour	No sheen	HydraSleeve™.
0207	MW205	17/04/2021	12/10/2021	12/10/2021	-	20.090	16.239	405.700	389.461	389.461	Good	OCA	On-base	2.760	2338.000	6.910	51.500	256.500	22.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW205	17/04/2021	20/04/2022	20/04/2022	-	20.020	15.034	405.700	390.666	390.666	Good	OCA	On-base	1.900	1880.000	7.260	164.400	369.400	22.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW205	14/04/2022	24/10/2022	24/10/2022	-	20.020	14.569	405.700	391.131	391.131	Good	OCA	On-base	2.260	6879.000	6.720	116.000	321.000	25.500	Med-high	Cloudy/brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW205	24/10/2022	12/04/2023	12/04/2023	-	20.051	14.412	405.700	391.288	391.288	Good	OCA	On-base	2.740	4712.000	6.620	201.900	406.900	21.900	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW205	12/04/2023	24/10/2023	24/10/2023	-	20.100	14.511	405.700	391.189	391.189	Good	OCA	On-base	3.460	4652.000	6.620	64.500	269.500	27.100	Medium	Brown/Cloudy	No odour	No sheen	HydraSleeve™.
0207	MW206	14/04/2021	11/10/2021	11/10/2021	-	19.130	14.461	405.720	391.259	391.259	Good	OCA	On-base	1.650	4156.000	7.200	-9.400	195.600	23.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW206	14/04/2021	21/04/2022	21/04/2022	-	19.115	13.046	405.720	392.674	392.674	Good	OCA	On-base	0.680	3957.000	7.190	143.400	348.400	24.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
207	MW207	Unknown	17/04/2022	17/04/2022	-	20.435	14.537	405.416	390.879	390.879	Good	OCA	On-base	0.330	2728.000	7.030	92.700	297.700	24.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW207	15/04/2022	25/10/2022	25/10/2022	-	20.435	13.996	405.416	391.420	391.420	Good	OCA	On-base	2.000	4138.000	7.430	132.200	337.200	24.000	med-high	Cloudy/grey	No odour	No sheen	HydraSleeve™. Suspended and settled grey sediment. Sampled instead of MW206, which was not accessible.

Property ID	Well ID	Date Hydrasleeve Installed	Date Well Sampled	Gauging Date	Depth to LNAPL (mbtoc)	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	Aquifer	Location	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_h (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	MW207	25/10/2022	12/04/2023	12/04/2023	-	20.432	13.874	405.416	391.542	391.542	Good	OCA	On-base	0.480	3891.000	7.140	214.700	419.700	23.200	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW207	12/04/2023	25/10/2023	25/10/2023	-	20.420	14.002	405.416	391.414	391.414	Good	OCA	On-base	0.640	4286.000	7.040	68.100	273.100	23.100	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW221	14/04/2021	12/10/2021	12/10/2021	-	19.350	15.673	405.496	389.823	389.823	Good	OCA	On-base	0.600	2269.000	7.260	22.500	227.500	24.700	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW221	14/04/2021	17/04/2022	17/04/2022	-	19.310	14.493	405.496	391.003	391.003	Good	OCA	On-base	0.910	1587.000	7.110	159.300	364.300	22.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW221	17/04/2022	25/10/2022	25/10/2022	-	19.310	13.953	405.496	391.543	391.543	Good	OCA	On-base	0.990	2198.000	7.420	132.600	337.600	24.800	Low	Clear/brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW221	25/10/2022	12/04/2023	12/04/2023	-	19.234	13.839	405.496	391.657	391.657	Good	OCA	On-base	0.670	1856.000	7.240	142.300	347.300	22.600	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW221	12/04/2023	25/10/2023	25/10/2023	-	19.290	13.921	405.496	391.575	391.575	Good	OCA	On-base	1.150	1989.000	7.160	-37.500	167.500	24.600	High	Brown	No odour	No sheen	HydraSleeve™.
0207	MW222	14/04/2021	12/10/2021	12/10/2021	-	19.010	15.896	405.658	389.762	389.762	Good	OCA	On-base	3.800	2626.000	7.150	58.400	263.400	23.400	Medium	Light brown	No odour	No sheen	HydraSleeve™.
0207	MW222	14/04/2021	17/04/2022	17/04/2022	-	18.930	14.663	405.716	391.053	391.053	Good	OCA	On-base	1.820	2052.000	7.240	148.100	353.100	22.600	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW222	17/04/2022	26/10/2022	26/10/2022	-	18.930	14.084	405.716	391.632	391.632	Good	OCA	On-base	2.710	2624.000	7.360	81.500	286.500	23.400	Medium	Clear/brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW222	26/10/2022	12/04/2023	12/04/2023	-	18.568	13.971	405.716	391.745	391.745	Good	OCA	On-base	1.730	2209.000	7.300	194.900	399.900	22.900	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW222	12/04/2023	25/10/2023	25/10/2023	-	18.940	14.081	405.716	391.635	391.635	Good	OCA	On-base	2.720	2355.000	7.190	104.000	309.000	25.500	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW223	14/04/2021	12/10/2021	12/10/2021	-	20.920	15.915	405.788	389.873	389.873	Good	OCA	On-base	4.720	2280.000	7.060	70.900	275.900	23.900	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW223	14/04/2021	13/04/2022	13/04/2022	-	20.180	-	405.845	-	-	-	OCA	On-base	-	-	-	-	-	-	-	-	-	-	HydraSleeve™. Gauging and field parameter data lost due to EDCA fault
0207	MW223	17/04/2022	26/10/2022	26/10/2022	-	20.180	12.568	405.845	393.277	393.277	Good	OCA	On-base	3.600	3134.000	7.080	80.100	285.100	23.000	Clear	Clear	No odour	No sheen	HydraSleeve™. Some settled brown sediment.
0207	MW223	26/10/2022	12/04/2023	12/04/2023	-	20.102	12.562	405.845	393.283	393.283	Good	OCA	On-base	2.810	2435.000	7.070	184.100	389.100	21.700	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW223	12/04/2023	25/10/2023	25/10/2023	-	20.070	13.147	405.845	392.698	392.698	Good	OCA	On-base	4.600	2309.000	6.990	-158.800	46.200	25.700	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW229	14/04/2021	12/10/2021	12/10/2021	-	15.680	4.307	405.533	401.226	401.226	Good	OCA	Off-base	0.750	2215.000	7.580	-20.800	184.200	27.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW229	14/04/2021	13/04/2022	13/04/2022	-	15.660	-	405.533	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	HydraSleeve™. Gauging and field parameter data lost due to EDCA fault.
0207	MW229	20/04/2022	27/10/2022	27/10/2022	-	15.660	2.715	405.533	402.818	402.818	Good	OCA	Off-base	1.090	2074.000	7.550	77.000	282.000	24.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW229	27/10/2022	13/04/2023	13/04/2023	-	15.646	2.731	405.533	402.802	402.802	Good	OCA	Off-base	0.510	1814.000	7.570	137.200	342.200	19.800	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW229	13/04/2023	25/10/2023	25/10/2023	-	15.720	3.473	405.533	402.060	402.060	Good	OCA	Off-base	0.700	1716.000	7.500	-109.200	95.800	27.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW230	14/04/2021	12/10/2021	12/10/2021	-	18.970	15.291	405.416	390.125	390.125	Good	OCA	On-base	3.140	1872.000	7.080	52.400	257.400	23.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW230	14/04/2021	17/04/2022	17/04/2022	-	18.850	13.771	405.416	391.645	391.645	Good	OCA	On-base	2.840	1346.000	7.250	144.300	349.300	22.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW230	20/04/2022	26/10/2022	26/10/2022	-	18.850	11.991	405.416	393.425	393.425	Good	OCA	On-base	3.090	1420.000	7.320	84.500	289.500	24.700	Low-med	Clear/brown	No odour	No sheen	HydraSleeve™. Suspended brown sediment.
0207	MW230	26/10/2022	12/04/2023	12/04/2023	-	18.850	12.093	405.416	393.323	393.323	Good	OCA	On-base	3.250	1278.000	7.220	212.100	417.100	22.900	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW230	12/04/2023	25/10/2023	25/10/2023	-	18.980	13.258	405.416	392.158	392.158	Good	OCA	On-base	3.090	1932.000	7.040	-136.200	68.800	25.300	Medium	Cloudy	No odour	No sheen	HydraSleeve™.
0207	MW232	14/04/2021	13/10/2021	13/10/2021	-		11.106	405.898	394.792	394.792	Good	OCA	On-base	4.470	200.900	6.680	75.900	280.900	22.500	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW232	14/04/2021	17/04/2022	17/04/2022	-	12.055	10.889	405.898	395.009	395.009	Good	OCA	On-base	2.250	278.300	7.190	142.300	347.300	21.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW232	17/04/2022	27/10/2022	27/10/2022	-	12.055	10.923	405.898	394.975	394.975	Good	OCA	On-base	4.110	329.100	7.050	102.500	307.500	20.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW232	27/10/2022	12/04/2023	12/04/2023	-	13.032	10.942	405.898	394.956	394.956	Good	OCA	On-base	2.190	398.400	7.310	190.800	395.800	24.400	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW232	12/04/2023	25/10/2023	25/10/2023	-	12.070	11.801	405.898	394.097	394.097	Good	OCA	On-base	5.230	568.100	6.990	-130.400	74.600	24.400	High	Brown	No odour	No sheen	Bailer used to collect water sample as there was insufficient water for HydraSleeve™ sampling.
0207	MW233	17/04/2021	14/10/2021	14/10/2021	-	17.840	15.884	406.470	390.586	390.586	Good	OCA	On-base	4.560	1037.000	7.280	74.200	279.200	23.000	Turbid	Light brown	No odour	No sheen	HydraSleeve™.
0207	MW233	17/04/2021	20/04/2022	20/04/2022	-	17.780	14.564	406.470	391.906	391.906	Good	OCA	On-base	3.400	850.000	7.560	142.000	347.000	22.100	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW233	20/04/2022	24/11/2022	24/11/2022	-	17.780	14.564	406.470	391.906	391.906	Good	OCA	On-base	3.400	850.000	7.560	142.000	347.000	22.100	Medium	Clear	No odour	No sheen	HydraSleeve™. Some suspended and settled brown sediment.
0207	MW233	24/11/2022	13/04/2023	13/04/2023	-	17.802	13.993	406.470	392.477	392.477	Good	OCA	On-base	1.520	745.000	7.270	107.300	312.300	20.200	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW233	13/04/2023	26/10/2023	26/10/2023	-	17.830	14.123	406.470	392.347	392.347	Good	OCA	On-base	2.670	845.000	7.400	-31.400	173.600	22.800	high	brown	No odour	No sheen	HydraSleeve™.
0207	MW235	14/04/2021	13/10/2021	13/10/2021	-	22.650	16.311	406.308	389.997	389.997	Good	OCA	On-base	0.760	1816.000	6.730	-51.000	154.000	23.300	Low	Light brown	No odour	No sheen	HydraSleeve™.
0207	MW235	14/04/2021	20/04/2022	20/04/2022	-	22.540	15.130	406.308	391.178	391.178	Good	OCA	On-base	0.780	1089.000	7.090	165.300	370.300	23.100	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW235	20/04/2022	26/10/2022	26/10/2022	-	22.540	14.533	406.308	391.775	391.775	Good	OCA	On-base	2.900	1907.000	7.020	128.800	333.800	25.200	Meidum	Clearish/Brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW235	26/10/2022	11/04/2023	11/04/2023	-	23.562	14.434	406.308	391.874	391.874	Good	OCA	On-base	2.060	1740.000	6.990	53.600	258.600	23.000	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW235	11/04/2023	26/10/2023	26/10/2023	-	22.580	14.514	406.308	391.794	391.794	Good	OCA	On-base	2.950	1953.000	7.000	41.300	246.300	18.800	Medium	cloudy	No odour	No sheen	HydraSleeve™.
0207	MW236	14/04/2021	20/04/2022	20/04/2022	-	16.670	14.978	405.653	390.675	390.675	Good	OCA	On-base	0.840	565.000	6.680	172.200	377.200	22.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW236	20/04/2022	26/10/2022	26/10/2022	-	16.670	14.380	405.653	391.273	391.273	Good	OCA	On-base	1.800	1495.000	6.630	123.600	328.600	25.100	Low	Brownish/clear	No odour	No sheen	HydraSleeve™. Brown settled sediment.
0207	MW236	-	-	13/10/2021	-	16.720	16.186	405.653	389.467	389.467	Good	OCA	On-base	1.380	2013.000	6.360	76.000	281.000	24.800	Turbid	Clear	No odour	No sheen	Grab sample with bailer.
0207	MW236	26/10/2022	11/04/2023	11/04/2023	-	16.780	14.284	405.653	391.369	391.369	Good	OCA	On-base	1.470	1139.000	6.750	56.000	261.000	21.100	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW236	11/04/2023	26/10/2023	26/10/2023	-	16.810	14.356	405.653	391.297	391.297	Good	OCA	On-base	1.670	1294.000	6.740	28.400	233.400	19.100	Medium	Clear/Cloudy	No odour	No sheen	HydraSleeve™.
0207	MW241	14/04/2021	13/10/2021	13/10/2021	-	18.080	16.046	405.883	389.837	389.837	Good	OCA	On-base	4.410	935.000	6.780	74.600	279.600	23.600	Turbid	Clear	No odour	No sheen	Hydrasleeve™.
0207	MW241	14/04/2021	19/04/2022	19/04/2022	-	18.070	14.796	405.883	391.087	391.087	Good	OCA	On-base	3.210	726.000	7.300	153.100	358.100	22.600	Clear	Clear	No odour	No sheen	Hydrasleeve™.
0207	MW241	19/04/2022	26/10/2022	26/10/2022	-	18.070	14.232	405.883	391.651	391.651	Good	OCA	On-base	3.640	865.000	7.100	103.100	308.100	23.200	Low-med	Clear	No odour	No sheen	HydraSleeve™. Brown suspended and settled sediment.
0207	MW241	26/10/2022	11/04/2023	11/04/2023	-	18.102	14.159	405.883	391.724	391.724	Good	OCA	On-base	3.700	733.000	7.160	48.700	253.700	20.600	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW241	11/04/2023	26/10/2023	26/10/2023	-	18.510	14.282	405.883	391.601	391.601	Good	OCA	On-base	4.430	796.000	7.110	36.100	241.100	19.700	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW242	20/04/2021	11/10/2021	11/10/2021	-	20.030	14.771	402.030	387.259	387.259	Damaged	OCA	On-base	1.630	2351.000	7.580	-33.800	171.200	24.500	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW242	20/04/2021	18/04/2022	18/04/2022	-	20.000	13.365	402.030	388.665	388.665	Damaged	OCA	On-base	2.740	672.000	11.240	36.700	241.700	23.400	Clear	Clear	No odour	No sheen	Bailed due to damaged well mouument. Mouument no longer present.
0207	MW242	Not installed.	24/11/2022	24/11/2022	-	20.000	Not gauged.	-	-	-	Good	OCA	On-base	5.400	10532.000	7.040	130.200	335.200	22.200	High	Brown	No odour	No sheen	Monument recently replaced, sampled with bailer. Insuffcient water to install HydraSleeve™. Suspended brown sediment. Inadvertently not gauged. Bore sampled in replacement to MW242.
0207	MW243	27/10/2022	14/04/2023	14/04/2023	-	6.831	6.732	-	-	-	Good	OCA	On-base	-	-	-	-	-	-	-	-	-	-	HydraSleeve™. Insufficient volume for parameter measurements. Bore sampled in replacement to MW242.
0207	MW243	14/04/2023	Not sampled	26/10/2023	-	6.860	-	-	-	-	Good	OCA	On-base	-	-	-	-	-	-	-	-	-	-	Well was dry.
0207	MW245	20/04/2021	11/10/2021	11/10/2021	-	20.550	15.696	402.981	387.285	387.285	Good	OCA	On-base	3.320	1535.000	7.150	66.700	271.700	21.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW245	20/04/2021	18/04/2022	18/04/2022	-	21.925	14.455	402.981	388.526	388.526	Good	OCA	On-base	2.720	1326.000	7.260	175.000	380.000	20.100	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW245	18/04/2022	3/11/2022	3/11/2022	-	21.925	14.010	402.981	388.971	388.971	Good	OCA	On-base	2.390	1815.000	6.990	80.800	285.800	20.400	Medium	Clear	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW245	3/11/2022	13/04/2023	13/04/2023	-	21.929	14.032	402.981	388.949	388.949	Good	OCA	On-base	1.960	1582.000	6.980	128.700	333.700	24.000	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW245	13/04/2023	26/10/2023	26/10/2023	-	21.950	14.420	402.981	388.561	388.561	Good	OCA	On-base	2.670	1540.000	6.880	-115.400	89.600	24.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW249	14/04/2021	13/10/2021	13/10/2021	-	18.760	15.243	404.769	389.526	389.526	Good	OCA	On-base	3.860	1699.000	7.060	73.400	278.400	21.900	Low	Clear	No odour	No sheen	Hydrasleeve™.
0207	MW249	14/04/2021	19/04/2022	19/04/2022	-	18.700	14.176	404.769	390.593	390.593	Good	OCA	On-base	1.810	1268.000	7.640	156.400	361.400	20.900	Clear	Clear	No odour	No sheen	Hydrasleeve™.
0207	MW249	19/04/2022	26/10/2022	26/10/2022	-	18.700	13.538	404.769	391.231	391.231	Good	OCA	On-base	3.060	1594.000	7.150	94.400	299.400	24.400	Med-high	Brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW249	26/10/2022	11/04/2023	16/04/2023	-	18.732	13.489	404.769	391.280	391.280	Good	OCA	On-base	3.530	1487.000	7.270	53.800	258.800	20.900	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW249	11/04/2023	26/10/2023	26/10/2023	-	18.740	13.568	404.769	391.201	391.201	Good	OCA	On-base	5.600	1550.000	7.250	25.200	230.200	20.800	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW252	20/10/2020	13/10/2021	13/10/2021	-	16.640	15.821	406.162	390.341	390.341	Good	OCA	On-base	0.780	695.000	6.670	61.800	266.800	25.300	Turbid	Clear	No odour	No sheen	HydraSleeve™.
0207	MW252	14/04/2021	20/04/2022	20/04/2022	-	16.545	14.557	406.162	391.605	391.605	Good	OCA	On-base	0.670	318.200	6.730	170.700	375.700	22.600	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW252	20/04/2022	26/10/2022	26/10/2022	-	16.545	13.915	406.162	392.247	392.247	Good	OCA	On-base	2.500	252.900	6.440	122.000	327.000	23.800	Med-high	Brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW252	26/10/2022	11/04/2023	11/04/2023	-	16.675	13.836	406.162	392.326	392.326	Good	OCA	On-base	0.910	468.500	6.760	43.300	248.300	21.500	High	Brown	No odour	No sheen	HydraSleeve™
0207	MW252	11/04/2023	26/10/2023	26/10/2023	-	16.620	13.924	406.162	392.238	392.238	Good	OCA	On-base	2.120	535.800	6.860	13.600	218.600	19.900	Medium	Brown	No odour	No sheen	HydraSleeve™.
0207	MW253	14/04/2021	-	-	-	-		-	-	-	-	-	Off-base	-	-	-	-	-	-	-	-	-	-	Destroyed by remediation project.
0207	MW254	14/04/2021	-	-	-	-		-	-	-	-	-	Off-base	-	-	-	-	-	-	-	-	-	-	Destroyed by remediation project.

Property ID	Well ID	Date Hydrasleeve Installed	Date Well Sampled	Gauging Date	Depth to LNAPL (mbtoc)	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	Aquifer	Location	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_h (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	MW255	13/04/2021	15/10/2021	15/10/2021	-	24.060	12.913	397.784	384.871	384.871	Good	OCA	Off-base	3.860	2796.000	7.230	69.000	274.000	23.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW255	13/04/2021	15/04/2022	15/04/2022	-	23.850	12.242	397.784	385.542	385.542	Damaged	OCA	Off-base	1.560	995.000	7.930	94.900	299.900	21.400	Clear	Clear	No odour	No sheen	Hydrasleeve. J cap not sealing well and needs replacing.
0207	MW255	16/04/2022	Not sampled	Well not found.		-					-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Used metal detector but unable to locate well due to heavy overgrowth.
0207	MW255	Not sampled	-	-	-	-	-	-	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Not found
0207	MW255	16/04/2022	26/10/2023	26/10/2023	-	24.070	11.410	397.784	386.374	386.374	Good	OCA	Off-base	2.620	2821.000	7.130	9.000		22.500	Low	Clear/Cloudy	Organic odour	No Sheen	HydraSleeve™.
0207	MW257	17/04/2021	14/10/2021	14/10/2021	-	23.940	14.563	400.833	386.270	386.270	Good	OCA	Off-base	0.900	3073.000	9.660	-183.500	21.500	26.000	Low	Clear	Organic odour	No sheen	HydraSleeve™.
0207	MW257	17/04/2021	15/04/2022	15/04/2022	-	23.945	13.722	400.833	387.111	387.111	Damaged	OCA	Off-base	0.230	452.900	7.040	60.900	265.900	21.900	Clear	Clear	No odour	No sheen	Hydrasleeve. J cap not sealing well and needs replacing.
207	MW257	15/04/2022	26/10/2022	27/10/2022	-	23.945	12.962	400.833	387.871	387.871	Good	OCA	Off-base	0.800	3280.000	7.290	49.300	254.300	25.500	Clear	Clear	No odour	No sheen	HydraSleeve™. Some organice in HydraSleeve™, minimal settled grey sediment.
0207	MW257	26/10/2022	14/04/2023	14/04/2023	-	24.094	12.793	400.833	388.040	388.040	Good	OCA	Off-base	0.400	2246.000	7.130	21.500	226.500	21.500	Medium	Clear/Yellowish	No odour	No sheen	HydraSleeve™
0207	MW257	14/04/2023	26/10/2023	26/10/2023	-	23.950	12.821	400.833	388.012	388.012	Good	OCA	Off-base	0.670	2977.000	7.180	-221.700	-16.700	24.300	Medium	Clear	Sulfuorous	No sheen	HydraSleeve™.
0207	MW262	19/04/2021	14/10/2021	14/10/2021	-	17.840	12.339	398.329	385.990	385.990	Good	OCA	Off-base	1.500	2686.000	7.140	12.200	217.200	26.800	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW262	19/04/2021	16/04/2022	16/04/2022	-	17.810	11.536	398.329	386.793	386.793	Good	OCA	Off-base	1.800	1909.000	7.010	116.200	321.200	23.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW262	16/04/2022	2/11/2022	2/11/2022	-	17.810	11.091	398.329	387.238	387.238	Good	OCA	Off-base	2.050	2384.000	7.310	78.900	283.900	20.400	Clearing	Cloudy/brown	No odour	No sheen	HydraSleeve™.
0207	MW262	2/11/2022	14/04/2023	14/04/2023	-	17.760	11.011	398.329	387.318	387.318	Good	OCA	Off-base	2.210	1919.000	7.140	55.800	260.800	19.200	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW262	14/04/2023	26/10/2023	26/10/2023	-	17.840	10.901	398.329	387.428	387.428	Good	OCA	Off-base	2.830	1962.000	7.160	-94.500	110.500	23.900	Medium	Clear	No odour	No sheen	HydraSleeve™.
0207	MW264	13/04/2021	14/10/2021	14/10/2021	-	11.040	8.477	392.755	384.278	384.278	Good	OCA	Off-base	1.000	3270.000	6.830	20.800	225.800	24.600	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW264	13/04/2021	14/04/2022	14/04/2022	-	11.060	7.486	392.755	385.269	385.269	Good	OCA	Off-base	0.510	2347.000	6.890	152.400	357.400	21.500	Turbid	Clear	No odour	No sheen	HydraSleeve™.
0207	MW264	14/04/2022	Not sampled	Well not found.	-	-	-	-	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Used metal detector but unable to locate well due to heavy overgrowth.
0207	MW264	14/04/2022	-	-	-	-	-	-	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Not found
0207	MW264	14/04/2022	Not sampled	Not sampled	-	-	-	-	-	-	Good	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Well not found.
0207	MW265	12/04/2021	16/04/2022	16/04/2022	-	19.110	15.429	408.398	392.969	392.969	Good	OCA	Off-base	0.500	817.000	7.250	109.800	314.800	22.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW265	16/04/2022	14/04/2023	14/04/2023	-	19.120	14.898	408.398	393.500	393.500	Good	OCA	Off-base	0.600	1330.000	7.020	90.900	295.900	22.600	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW266	20/04/2021	16/04/2022	16/04/2022	-	21.460	13.481	401.316	387.835	387.835	Good	OCA	Off-base	0.780	3615.000	7.110	140.100	345.100	23.600	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW266	16/04/2022	13/04/2023	13/04/2023	-	21.281	12.963	401.316	388.353	388.353	Good	OCA	Off-base	0.660	4706.000	7.040	210.300	415.300	24.100	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW267	15/04/2021	13/04/2022	13/04/2022	-	-	-	401.392	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Hydrasleeve. Gauging and field parameter data lost due to EDCA fault.
0207	MW267	13/04/2022	18/04/2023	18/04/2023	-	47.159	12.269	401.392	389.123	389.123	Good	OCA	Off-base	0.490	622.000	7.820	16.000	221.000	23.500	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW268	15/04/2021	13/04/2022	13/04/2022	-	-	-	401.323	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Hydrasleeve. Gauging and field parameter data lost due to EDCA fault
0207	MW268	13/04/2022	18/04/2023	18/04/2023	-	20.032	11.801	401.323	389.522	389.522	Good	OCA	Off-base	0.500	3605.000	7.050	98.600	303.600	20.100	Low	Clear/Cloudy	No odour	No sheen	HydraSleeve™
0207	MW288	15/04/2021	15/10/2021	15/10/2021	-	-	34.127	401.958	367.831	367.831	Good	OCA	Off-base	1.460	2895.000	11.840	-226.700	-21.700	22.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW269	15/04/2021	13/04/2022	13/04/2022	-	-	-	401.958	-	-	-	WCM	Off-base	-	-	-	-	-	-	-	-	-	-	Hydrasleeve. Gauging and field parameter data lost due to EDCA fault.
0207	MW269	13/04/2022	2/11/2022	2/11/2022	-	86.960	33.486	401.958	368.472	368.472	Good	WCM	Off-base	1.340	3134.000	12.130	44.300	249.300	16.100	Clear	Clear	No odour	No sheen	HydraSleeve™. Settled brown sediment.
0207	MW269	2/11/2022	18/04/2023	18/04/2023	-	80.350	33.539	401.958	368.419	368.419	Good	WCM	Off-base	0.870	2573.000	11.970	38.000	243.000	21.500	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW269	18/04/2023	16/08/2023	16/08/2023	-	80.310	33.400	401.958	368.419	368.419	Good	WCM	Off-base	2.650	1655.000	10.950	-65.400	139.600	22.300	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW269	16/08/2023	25/10/2023	25/10/2023	-	89.500	33.414	401.958	368.544	368.544	Good	WCM	Off-base	2.840	1359.000	11.400	21.400	226.400	22.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW270	15/04/2021	13/04/2022	13/04/2022	-	-	-	404.078	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Hydrasleeve. Gauging and field parameter data lost due to EDCA fault.
0207	MW270	13/04/2022	10/05/2023	10/05/2023	-	19.700	13.050	404.078	391.028	391.028	Good	OCA	Off-base	3.000	4656.000	6.840	152.800	357.800	22.200	Medium	Brown	No odour	No sheen	HydraSleeve™
0207	MW271	15/04/2021	13/04/2022	13/04/2022	-	-	-	403.855	-	-	-	MRV	Off-base	-	-	-	-	-	-	-	-	-	-	Hydrasleeve. Gauging and field parameter data lost due to EDCA fault.
0207	MW271	13/04/2022	10/05/2023	10/05/2023	-	49.900	37.400	403.855	366.455	366.455	Good	MRV	Off-base	1.000	958.000	9.950	-182.000	23.000	22.000	Medium	Clear	Sulfuric odour	No sheen	HydraSleeve™
0207	MW272	19/04/2021	15/10/2021	15/10/2021	-	19.990	12.662	397.972	385.310	385.310	Good	OCA	Off-base		2722.000	7.210	81.300	286.300	23.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW272	19/04/2021	16/04/2022	16/04/2022	-	20.040	11.936	397.972	386.036	386.036	Good	OCA	Off-base	2.360	1936.000	7.780	131.700	336.700	20.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW272	16/04/2022	27/10/2022	27/10/2022	-	20.040	11.312	397.972	386.660	386.660	Good	OCA	Off-base	2.500	2799.000	7.370	83.000	288.000	23.300	Med-high	Clear/brown	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW272	27/10/2022	13/04/2023	13/04/2023	-	20.955	11.301	397.972	386.671	386.671	Good	OCA	Off-base	2.220	2602.000	7.220	212.900	417.900	21.300	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW272	13/04/2023	26/10/2023	26/10/2023	-	19.980	11.191	397.972	386.781	386.781	Good	OCA	Off-base	3.150	2507.000	7.210	-5.100	199.900	22.100	High	Brown	No odour	No sheen	HydraSleeve™.
0207	MW273	19/04/2021	16/04/2022	16/04/2022	-	67.090	18.564	398.044	379.480	379.480	Good	WCM	Off-base	0.270	227.600	9.040	97.900	302.900	19.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW273	16/04/2022	13/04/2023	13/04/2023	-	66.923	17.992	398.044	380.052	380.052	Good	WCM	Off-base	0.610	4247.000	9.630	189.800	394.800	20.600	High	Clear/Yellowish	No odour	No sheen	HydraSleeve™
0207	MW274	17/04/2021	15/04/2022	15/04/2022	-	32.000	13.737	399.947	386.210	386.210	Good	OCA	Off-base	0.260	1225.000	7.650	39.600	244.600	22.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW274	15/04/2022	14/04/2023	14/04/2023	-	32.347	12.946	399.947	387.001	387.001	Good	OCA	Off-base	0.630	1290.000	7.540	31.200	236.200	19.200	High	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW275	17/04/2021	15/04/2022	15/04/2022	-	56.160	13.690	399.911	386.221	386.221	Good	MRV	Off-base	0.820	1536.000	7.740	61.700	266.700	23.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW275	15/04/2022	14/04/2023	14/04/2023	-	55.581	12.892	399.911	387.019	387.019	Good	MRV	Off-base	0.390	840.000	7.940	120.200	325.200	18.100	High	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW276	19/04/2021	14/10/2021	14/10/2021	-	19.840	14.678	400.474	385.796	385.796	Good	OCA	Off-base	1.040	3097.000	6.990	55.300	260.300	25.000	Medium	Clear	Organic odour	No sheen	HydraSleeve™.
0207	MW276	19/04/2021	15/04/2022	15/04/2022	-	19.900	13.927	400.474	386.547	386.547	Damaged	OCA	Off-base	0.450	2123.000	7.010	105.400	310.400	22.800	Clear	Clear	No odour	No sheen	Hydrasleeve. Concrete collar and gatic slightly damaged.
0207	MW276	15/04/2022	24/11/2022	14/11/2022	-	19.900	13.535	400.474	386.939	386.939	Damaged	OCA	Off-base	1.460	2428.000	7.120	101.100	306.100	23.500	High	Brown	No odour	No sheen	HydraSleeve™. Suspended brown sediment and settled grey sediment. Concrete has been damaged.
0207	MW276	14/11/2022	13/04/2023	13/04/2023	-	19.856	13.135	400.474	387.339	387.339	Good	OCA	Off-base	0.460	2389.000	7.080	212.500	417.500	21.200	Medium	Brown/yellowish	No odour	No sheen	HydraSleeve™
0207	MW276	13/04/2023	26/10/2023	26/10/2023	-	19.830	13.049	400.474	387.425	387.425	Good	OCA	Off-base	0.720	2275.000	7.060	-44.100	160.900	23.900	Medium	Clear/brownish	No odour	No sheen	HydraSleeve™.
0207	MW278	16/04/2021	16/04/2022	16/04/2022	-	22.060	8.763	404.155	395.392	395.392	Good	OCA	Off-base	0.510	1217.000	7.120	113.200	318.200	23.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW278	16/04/2022	14/04/2023	14/04/2023	-	22.118	8.083	404.155	396.072	396.072	Good	OCA	Off-base	0.390	1240.000	7.110	104.400	309.400	23.300	Medium	Clearish/Cloudy	No odour	No sheen	HydraSleeve™
0207	MW279	16/04/2021	15/04/2022	15/04/2022	-	18.055	6.408	406.341	399.933	399.933	Damaged	OCA	Off-base	0.990	1374.000	7.160	120.500	325.500	22.200	Clear	Clear	No odour	No sheen	Hydrasleeve. Concrete collar slightly damaged.
0207	MW279	15/04/2022	-	-	-	-	-	-	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Not found
0207	MW280	17/04/2021	14/04/2022	14/04/2022	-	30.175	11.842	398.486	386.644	386.644	Good	OCA	Off-base	0.270	2251.000	7.340	96.400	301.400	24.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW280	14/04/2022	14/04/2023	14/04/2023	-	30.004	10.969	398.486	387.517	387.517	Good	OCA	Off-base	0.720	2080.000	7.370	9.600	214.600	19.300	Medium-high	Clear	Sulfuric odour	No sheen	HydraSleeve™
0207	MW281	20/04/2021	14/04/2022	14/04/2022	-	18.485	8.725	396.856	388.131	388.131	Good	OCA	Off-base	1.110	2345.000	7.060	126.100	331.100	23.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW281	14/04/2022	14/04/2023	14/04/2023	-	18.485	8.121	396.856	388.735	388.735	Good	OCA	Off-base	1.790	2394.000	6.880	80.400	285.400	20.800	Medium-high	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW282	15/04/2021	15/04/2022	15/04/2022	-	16.000	4.202	397.327	393.125	393.125	Good	OCA	Off-base	2.030	923.000	7.050	126.900	331.900	22.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW282	15/04/2022	14/04/2023	14/04/2023	-	15.984	4.729	397.327	392.598	392.598	Good	OCA	Off-base	1.310	1215.000	6.890	25.200	230.200	20.500	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW283	20/04/2021	13/04/2022	13/04/2022	-	15.000	9.675	395.371	385.696	385.696	Good	OCA	Off-base	0.330	1265.000	7.260	132.800	337.800	22.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW283	13/04/2022	18/04/2023	18/04/2023	-	14.982	8.743	395.371	386.628	386.628	Good	OCA	Off-base	0.660	746.000	7.110	125.400	330.400	21.500	High	Clear/brownish	No odour	No sheen	HydraSleeve™
0207	MW285	15/04/2021	16/04/2022	16/04/2022	-	10.710	4.729	398.331	393.602	393.602	Good	OCA	Off-base	2.050	2045.000	7.200	131.900	336.900	21.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW285	16/04/2022	14/04/2023	14/04/2023	-	10.695	4.924	398.331	393.407	393.407	Good	OCA	Off-base	1.030	1782.000	7.520	104.500	309.500	21.200	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW288	21/04/2021	21/04/2022	21/04/2022	-	21.830	16.258	402.161	385.903	385.903	Damaged	OCA	Off-base	0.330	1020.000	7.870	76.800	281.800	19.700	Clear	Clear	No odour	No sheen	Hydrasleeve. Monument is damaged and lid is broken.
0207	MW288	21/04/2022	18/04/2023	18/04/2023	-	21.806	13.024	402.161	389.137	389.137	Good	OCA	Off-base	0.340	1143.000	7.590	28.800	233.800	18.900	High	Brown	No odour	No sheen	HydraSleeve™
0207	MW289	21/04/2021	21/04/2022	21/04/2022	-	65.180	61.785	402.072	340.287	340.287	Damaged	WCM	Off-base	0.990	863.000	7.910	47.500	252.500	20.400	Clear	Clear	No odour	No sheen	Hydrasleeve. Monument is damaged and lid is broken.
0207	MW289	21/04/2022	-	-	-	-	-	-	-	-	-	WCM	Off-base	-	-	-	-	-	-	-	-	-	-	Dry
0207	MW290	21/04/2021	21/04/2022	21/04/2022	-	19.710	5.765	403.688	397.923	397.923	Good	OCA	Off-base	0.260	3774.000	6.950	77.200	282.200	19.600	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW290	21/04/2022	19/04/2023	19/04/2023	-	19.694	5.912	403.688	397.776	397.776	Good	OCA	Off-base	0.660	3420.000	6.960	75.300	280.300	20.300	Medium	Clear	No odour	No sheen	HydraSleeve™

Property ID	Well ID	Date Hydrasleeve Installed	Date Well Sampled	Gauging Date	Depth to LNAPL (mbtoc)	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	Aquifer	Location	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_f (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	MW291	21/04/2021	21/04/2022	21/04/2022	-	56.720	16.120	403.709	387.589	387.589	Good	WCM	Off-base	0.570	982.000	7.570	73.600	278.600	17.500	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW291	21/04/2022	19/04/2023	19/04/2023	-	56.152	14.786	403.709	388.923	388.923	Good	WCM	Off-base	0.520	1590.000	7.540	18.300	223.300	20.700	Medium	Clear/ Yellowish	Weak sulfuric odour	No sheen	HydraSleeve™
0207	MW292	19/04/2021	14/04/2022	14/04/2022	-	19.140	6.786	401.818	395.032	395.032	Good	OCA	Off-base	0.540	4407.000	8.670	51.500	256.500	21.000	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW292	14/04/2022	17/04/2023	17/04/2023	-	18.953	6.164	401.818	395.654	395.654	Good	OCA	Off-base	0.430	4894.000	6.750	100.400	305.400	21.500	High	Brown	No odour	No sheen	HydraSleeve™
0207	MW293	19/04/2021	14/04/2022	14/04/2022	-	60.180	36.203	402.021	365.818	365.818	Good	WCM	Off-base	2.030	3270.000	11.890	-8.200	196.800	22.300	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW293	14/04/2022	17/04/2023	17/04/2023	-	60.532	35.398	402.021	366.623	366.623	Good	WCM	Off-base	1.910	3363.000	11.970	38.200	243.200	22.400	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW294	15/04/2021	15/04/2022	15/04/2022	-	18.415	7.726	403.780	396.054	396.054	Good	OCA	Off-base	1.770	2221.000	7.790	147.200	352.200	19.700	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW294	15/04/2022	18/04/2023	18/04/2023	-	18.358	7.997	403.780	395.783	395.783	Good	OCA	Off-base	1.700	1656.000	7.530	21.900	226.900	20.700	Medium	Clear/ brownish	No odour	No sheen	HydraSleeve™
0207	MW295	15/04/2021	13/04/2022	13/04/2022	-	-	-	402.837	-	-	-	WCM	Off-base	-	-	-	-	-	-	-	-	-	-	Hydrasleeve. Gauging and field parameter data lost due to EDCA fault.
0207	MW295	13/04/2022	18/04/2023	18/04/2023	-	69.900	7.782	402.837	395.055	395.055	Good	WCM	Off-base	0.600	915.000	10.040	33.000	238.000	21.000	High	Clear/ brownish	Weak sulfuric odour	No sheen	HydraSleeve™
0207	MW296	15/04/2021	-	-	-	-	-	399.155	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Not sampled- stakeholder declined.
0207	MW296	15/04/2021	-	-	-	-	-	-	-	-	-	OCA	Off-base	-	-	-	-	-	-	-	-	-	-	Not sampled as no access permission
0207	MW297	15/04/2021	-	-	-	-	-	399.230	-	-	-	WCM	Off-base	-	-	-	-	-	-	-	-	-	-	Not sampled- stakeholder declined.
0207	MW297	15/04/2021	-	-	-	-	-	-	-	-	-	WCM	Off-base	-	-	-	-	-	-	-	-	-	-	Not sampled as no access permission
0207	MW299	17/04/2021	12/10/2021	12/10/2021	-	15.440	12.244	403.970	391.726	391.726	Good	OCA	On-base	0.540	8647.000	6.770	17.300	222.300	23.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW299	17/04/2021	17/04/2022	17/04/2022	-	15.450	12.106	403.970	391.864	391.864	Good	OCA	On-base	0.350	5518.000	6.680	143.600	348.600	23.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW299	17/04/2022	24/10/2022	26/10/2022	-	15.450	12.129	403.970	391.841	391.841	Good	OCA	On-base	1.040	6628.000	6.760	91.900	296.900	26.800	Clear	Clear	No odour	No sheen	HydraSleeve™. Settled sediment.
0207	MW299	24/10/2022	12/04/2023	12/04/2023	-	15.448	12.195	403.970	391.775	391.775	Good	OCA	On-base	0.410	3944.000	6.910	152.300	357.300	21.800	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW299	12/04/2023	24/10/2023	24/10/2023	-	15.460	12.244	403.970	391.726	391.726	Good	OCA	On-base	1.300	5148.000	6.770	90.000	295.000	25.700	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW300	17/04/2021	12/10/2021	12/10/2021	-	16.430	14.657	403.715	389.058	389.058	Good	OCA	On-base	0.810	8986.000	7.380	32.300	237.300	24.700	Low	Clear	No odour	No sheen	HydraSleeve™.
0207	MW300	17/04/2021	17/04/2022	17/04/2022	-	16.460	13.534	403.715	390.181	390.181	Good	OCA	On-base	0.530	5337.000	6.800	139.500	344.500	23.400	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW300	17/04/2022	24/10/2022	26/10/2022	-	16.460	13.010	403.715	390.705	390.705	Good	OCA	On-base	3.490	5686.000	6.800	105.900	310.900	25.600	Clear	Clear	No odour	No sheen	HydraSleeve™. Settled sediment.
0207	MW300	24/10/2022	12/04/2023	12/04/2023	-	16.392	12.945	403.715	390.770	390.770	Good	OCA	On-base	0.490	4701.000	6.800	141.200	346.200	21.100	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW300	12/04/2023	24/10/2023	24/10/2023	-	16.370	13.049	403.715	390.666	390.666	Good	OCA	On-base	1.330	5636.000	6.670	123.700	328.700	24.700	Low	Clear	No odour	No sheen	HydraSleeve™.
207	MW562	19/04/2022	20/04/2022	19/04/2022	-	16.500	13.111	402.720	389.609	389.609	Good	OCA	On-base	0.460	1871.000	7.210	174.200	379.200	22.800	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW562	26/10/2022	3/11/2022	3/11/2022	-	16.500	12.487	402.720	390.233	390.233	Good	OCA	On-base	2.580	2102.000	7.120	88.800	293.800	17.800	Medium	Clear	No odour	No sheen	HydraSleeve™. Suspended and settled brown sediment.
0207	MW562	03/11/2022	12/04/2023	12/04/2023	-	19.341	12.575	402.720	390.145	390.145	Good	OCA	On-base	0.890	1425.000	7.180	89.400	294.400	21.800	High	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW562	12/04/2023	26/10/2023	26/10/2023	-	19.350	12.670	402.720	390.050	390.050	Good	OCA	On-base	0.920	1516.000	7.130	25.300	230.300	20.000	Medium	Clear	No odour	No sheen	HydraSleeve™.
207	MW563	19/04/2022	20/04/2022	19/04/2022	-	19.490	13.181	402.900	389.719	389.719	Good	OCA	On-base	0.420	1481.000	7.460	168.300	373.300	22.200	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW563	26/10/2022	3/11/2022	3/11/2022	-	19.490	12.559	402.900	390.341	390.341	Good	OCA	On-base	1.010	1891.000	7.330	90.300	295.300	18.900	Clear	Clear	No odour	No sheen	HydraSleeve™.
0207	MW563	03/11/2022	12/04/2023	12/04/2023	-	16.529	12.523	402.900	390.377	390.377	Good	OCA	On-base	4.370	1592.000	7.100	106.300	311.300	19.400	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW563	12/04/2023	26/10/2023	26/10/2023	-	16.490	12.659	402.900	390.241	390.241	Good	OCA	On-base	5.310	1670.000	7.070	-2.000	203.000	22.500	Medium	Cloudy	No odour	No sheen	HydraSleeve™.

* Corrected groundwater elevation provides the groundwater elevation following correction for the presence of LNAPL (if present).
mbtoc is metres below top of casing
mAHD is metres above Australian height datum
LNAPL is light non-aqueous phase liquid
Aquifer are Oakey Creek Alluvium (OCA), Walloon Coal Measures (WCM) or Main Range Volcanics (MRV)
DO is dissolved oxygen
EC is electrical conductivity
E_h is oxidation reduction potential
Oxidation reducation potential (E_f) measured with a platinum electrode and a silver/silver chloride reference electrode (E_f) and converted to E_h by $E_h = E_f + 205$ mV (based on a groundwater temperature of 21°C)
Temp is Temperature
µS/cm is microsiemens per centrimetre
ºC is degrees Celcius
mV is millivolts
pH was not measured at all locations due to a faulty sensor on the water quality meter.

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW001	31/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW001	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW001	27/05/2016	Normal	EB1614022	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW002	31/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW002	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW002	27/05/2016	Normal	EB1614022	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW002	28/04/2017	Normal	EB1708623	<0.02	<0.02	0.040	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW003	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW003	18/10/2018	Normal	EB1826389	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	16/04/2019	Normal	EB1910259	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	24/10/2019	Normal	EB1928471	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	24/03/2020	Normal	EB2008683	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	24/03/2020	Field_D	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	21/10/2020	Normal	EB2027835	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	13/04/2021	Normal	EB2110958	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	14/10/2021	Normal	EB2129563	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	13/04/2022	Normal	EB2211323	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	2/11/2022	Normal	EB2232882	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	18/04/2023	Normal	EB2312082-BM	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW003	25/10/2023	Normal	EB2333540	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW004	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW004	16/04/2019	Normal	EB1910265	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW004	16/04/2019	Interlab_D	RN1231107	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW004	16/04/2019	Field_D	EB1910265	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW005	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW005	12/10/2015	Normal	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW005	12/10/2015	Interlab_D	475642	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW005	12/10/2015	Field_D	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW006	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW006	4/02/2016	Normal	EB1603065	-	-	-	-	0.050	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW006	10/03/2017	Normal	EB1704807	-	-	0.140	-	0.120	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.260	-
MW006	16/04/2019	Normal	EB1910263	<0.02	<0.02	0.120	<0.02	0.100	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.220	0.22
MW007	27/05/2014	Normal	EB1412900	-	-	-	-	1.440	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW007	26/05/2016	Normal	EB1614023	-	-	-	-	0.460	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW008	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW009	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW009	8/02/2016	Normal	EB1603686	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW009	29/03/2017	Normal	EB1706413	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW010	6/06/2014	Normal	EB1413760	-	-	-	-	2.250	-	-	-	-	-	0.280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW010	2/02/2016	Normal	EB1603065	0.430	-	2.790	-	3.070	<0.02	-	-	0.650	0.190	0.350	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	5.860	-
MW010	30/03/2016	Normal	EB1608593	-	-	-	-	1.140	-	-	-	-	-	0.810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW010	3/05/2017	Normal	EB1709203	0.610	0.660	3.040	0.240	4.550	<0.02	<0.1	0.140	0.580	0.250	0.500	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	7.590	10.6
MW010	3/05/2017	Interlab_D	AEC006/170508	0.400	-	2.300	-	3.000	<0.02	0.190	0.130	0.540	0.140	0.300	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW010	3/05/2017	Field_D	EB1709203	0.670	0.720	3.370	0.270	4.910	<0.02	<0.1	0.140	0.650	0.280	0.570	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	8.280	11.58
MW011	6/06/2014	Normal	EB1413760	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW011	12/10/2015	Normal	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW011	10/01/2017	Normal	EB1700645	-	-	0.030	-	0.060	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.090	-
MW011	17/03/2017	Normal	EB1705316	-	-	0.030	-	0.020	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.050	-
MW011	26/05/2017	Normal	EB1710855	<0.02	<0.02	0.020	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW011	19/10/2017	Normal	EB1721721	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW012	13/08/2014	Normal	ES1418075	-	-	-	-	0.050	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW012	19/10/2016	Normal	EB1625209	-	-	0.210	-	0.070	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.280	-
MW012	19/10/2017	Normal	EB1721728	0.030	0.030	0.220	<0.02	0.070	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.290	0.4
MW013	13/08/2014	Normal	ES1418075	-	-	-	-	0.060	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW013	16/03/2016	Normal	EB1607658	-	-	-	-	0.050	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW013	6/04/2017	Normal	EB1707193	-	-	0.080	-	0.020	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.100	-
MW013	6/04/2017	Field_D	EB1707193	-	-	0.100	-	0.020	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.120	-
MW013	20/04/2017	Interlab_D	AEC006_170410	-	-	0.290	-	0.130	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.420	-
MW014	13/08/2014	Normal	ES1418075	-	-	-	-	2.700	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW014	13/08/2014	Interlab_D	428995	-	-	-	-	0.610	-	-	-	-	-	0.190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-
MW014	13/08/2014	Field_D	ES1418075	-	-	-	-	2.280	-	-	-	-	-	0.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW014	5/02/2016	Normal	EB1603065	0.980	-	7.070	-	2.300	<0.02	-	-	1.500	0.180	0.160	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	9.370	-
MW014	4/04/2017	Normal	EB1707189	0.780	0.800	5.360	0.220	2.350	<0.02	<0.1	0.220	1.220	0.120	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	7.710	11.3
MW015	13/08/2014	Normal	ES1418075	-	-	-	-	1.020	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW015	9/02/2016	Normal	EB1603686	-	-	-	-	0.920	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW015	21/03/2017	Normal	EB1705928	0.100	0.090	0.920	0.060	1.280	<0.02	<0.1	<0.02	0.120	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	2.200	2.6
MW016	13/08/2014	Normal	ES1418075	-	-	-	-	1.440	-	-	-	-	-	0.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW016	16/03/2016	Normal	EB1607656	-	-	-	-	1.800	-	-	-	-	-	0.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW016	27/04/2017	Normal	EB1708638	0.540	0.380	4.450	0.200	3.460	<0.02	<0.1	0.030	0.050	<0.02	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	7.910	9.21
MW016	27/04/2017	Interlab_D	AEC006_170502	0.320	-	2.300	-	2.600	<0.02	0.110	0.087	0.410	0.066	0.150	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	-	4.900	-
MW016	27/04/2017	Field_D	EB1708638	0.510	0.360	4.220	0.180	2.990	<0.02	<0.1	0.020	0.050	<0.02	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	7.210	8.43
MW017	13/08/2014	Normal	ES1418075	-	-	-	-	3.130	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW017	10/02/2016	Normal	EB1603686	0.420	-	3.380	-	4.890	<0.02	-	-	0.610	0.070	0.150	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	8.270	-
MW017	17/03/2016	Normal	EB1614432	0.260	0.280	1.740	0.290	4.850	<0.02	<0.1	0.090	0.280	0.070	0.100	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.590	7.96
MW017	25/08/2017	Normal	EB1717510	0.250	0.230	2.190	0.260	3.960	<0.02	<0.1	0.050	0.270	0.040	0.120	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.150	7.37
MW017	25/02/2020	Normal	EB2005413	0.260	0.280	2.350	0.240	4.910	<0.02	<0.1	0.070	0.410	0.070	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	7.260	8.73
MW017	25/02/2020	Interlab_D	RN1266062	0.230	0.210	1.900	0.160	3.800	<0.01	0.052	0.060	0.290	0.047	0.110	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW017	25/02/2020	Field_D	EB2005413	0.250	0.230	2.110	0.280	4.760	<0.02	<0.1	0.060	0.340	0.060	0.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.870	8.22
MW018	13/08/2014	Normal	ES1418075	-	-	-	-	17.500	-	-	-	-	-	0.630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW018	26/09/2014	Normal	EB1443316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW018	26/09/2014	Interlab_D	433638	-	-	-	-	31.000	-	-	-	-	-	0.890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.030	<0.01	-	-	-
MW018	26/09/2014	Field_D	EB1443316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW018	8/02/2016	Normal	EB1603686	1.300	-	9.220	-	21.400	<0.02	-	-	2.410	0.290	0.760	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	30.620	-
MW018	21/04/2022	Normal	EB2211317	0.830	0.980	6.190	0.670	17.900	<0.02	0.200	0.280	1.460	0.240	0.730	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	24.100	29.5
MW019	13/08/2014	Normal	ES1418075	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW019	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW019	21/09/2016	Normal	EB1623093	-	-	0.050	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.050	-
MW019	17/10/2017	Normal	EB1721736	<0.02	<0.02	0.060	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW019	22/11/2018	Normal	EB1828779	<0.02	<0.02	0.060	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW019	22/11/2018	Interlab_D	AEC006_181128_1	<0.01	<0.01	0.043	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW019	22/11/2018	Field_D	EB1828779	<0.02	<0.02	0.050	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW019	17/04/2019	Normal	EB1910283	<0.02	<0.02	0.030	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW019	17/04/2019	Interlab_D	RN1231109	<0.01	<0.01	0.030	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW019	17/04/2019	Field_D	EB1910283	<0.02	<0.02	0.030	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW019	24/10/2019	Normal	EB1928475	<0.02	<0.02	0.030	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW019	26/03/2020	Normal	EB2008688	<0.02	<0.02	0.060	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW019	21/10/2020	Normal	EB2027844	<0.02	<0.02	0.030	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW019	13/04/2021	Norm

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW019	25/10/2023	Normal	EB2333536	<0.02	<0.02	0.06	<0.02	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.09	0.09
MW020	13/08/2014	Normal	ES1418075	-	-	-	-	7.560	-	-	-	-	-	1.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW020	16/03/2016	Normal	EB1607660	2.830	-	33.000	-	39.200	<0.02	-	-	5.330	0.510	1.660	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	72.200	-
MW020	20/09/2016	Normal	EB1623085	4.840	3.930	30.100	1.830	39.800	<0.02	<0.1	1.040	6.860	1.140	2.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	69.900	91.6
MW020	18/10/2017	Normal	EB1721734	2.700	2.610	17.500	1.320	7.910	<0.02	0.400	1.190	5.630	0.880	1.680	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	25.400	41.8
MW020	17/04/2018	Normal	EB1809896	1.960	2.010	15.400	1.060	21.500	<0.02	0.600	0.780	3.760	0.640	1.000	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	36.900	48.7
MW020	17/04/2018	Interlab_D	AEC006_180424	1.400	1.300	12.000	0.740	15.000	<0.01	0.480	0.580	2.700	0.430	0.790	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.017	<0.01	<0.01	-	-
MW020	17/04/2018	Field_D	EB1809896	2.020	1.970	15.500	1.050	22.200	<0.02	0.600	0.780	3.720	0.660	1.000	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	37.700	49.5
MW020	8/05/2019	Normal	EB1911734	1.950	1.990	19.300	0.980	28.100	<0.02	0.500	0.790	4.140	0.600	1.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	47.400	59.5
MW020	27/03/2020	Normal	EB2009338	2.620	2.240	20.000	1.540	14.900	<0.02	0.900	1.090	4.380	0.960	1.540	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	34.900	50.2
MW021	13/08/2014	Normal	ES1418075					2.470	-					1.060																<0.1	<0.1			
MW021	5/02/2016	Normal	EB1603065	0.250	-	2.000	-	3.560	<0.02	-	-	0.310	0.070	0.100	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	5.560	-
MW021	21/03/2017	Normal	EB1705927	0.280	0.230	2.030	0.230	4.190	<0.02	<0.1	<0.02	0.270	0.040	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.220	7.37
MW021	18/04/2018	Normal	EB1809893	0.200	0.170	1.460	0.160	3.220	<0.02	<0.1	0.050	0.240	0.040	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.680	5.62
MW021	18/10/2018	Normal	EB1826392	0.180	0.150	1.260	0.140	2.460	<0.02	<0.1	0.040	0.190	0.030	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.720	4.53
MW021	18/10/2018	Interlab_D	AEC006_181024	0.160	0.150	1.400	0.120	3.800	<0.01	<0.05	0.046	0.220	0.034	0.080	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW021	18/10/2018	Field_D	EB1826392	0.160	0.120	1.320	0.140	2.580	<0.02	<0.1	0.040	0.220	0.030	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.900	4.69
MW021	10/04/2019	Normal	EB1909634	0.160	0.180	1.580	0.170	2.910	<0.02	<0.1	0.040	0.240	0.040	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.490	5.41
MW021	27/03/2020	Normal	EB2009334	0.210	0.240	1.870	0.250	4.440	<0.02	<0.1	0.060	0.270	0.060	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.310	7.51
MW021	19/04/2021	Normal	EB2110949	0.180	0.230	1.620	0.270	4.480	<0.02	<0.1	0.060	0.280	0.050	0.120	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.100	7.29
MW021	12/04/2022	Normal	EB2211290	0.230	0.240	1.910	0.270	4.420	<0.02	<0.1	0.050	0.290	0.050	0.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.330	7.59
MW021	17/04/2023	Normal	EB2312082-BI	0.26	0.24	1.92	0.25	4.93	<0.02	<0.1	0.07	0.3	0.06	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.85	8.150
MW022	13/08/2014	Normal	ES1418075	-	-	-	-	0.480	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW022	14/07/2016	Normal	EB1618080	-	-	0.270	-	0.610	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	0.880	-
MW022	14/07/2016	Interlab_D	508124	-	-	0.340	-	0.970	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	1.310	-
MW022	14/07/2016	Field_D	EB1618080	-	-	0.210	-	0.560	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	0.770	-
MW022	20/10/2016	Normal	EB1625194	-	-	0.460	-	0.920	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	1.380	-
MW022	2/04/2020	Normal	EB2009346	0.030	0.040	0.310	0.040	0.700	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.010	1.18
MW022	22/10/2020	Normal	EB2027828	0.030	0.030	0.240	0.030	0.600	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.840	0.99
MW022	28/04/2021	Normal	EB2111757	0.020	0.020	0.180	<0.02	0.370	<0.02	<0.1	<0.02	0.030	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.550	0.63
MW022	12/04/2022	Normal	EB2211303	0.020	0.030	0.290	0.030	0.530	<0.02	<0.1	<0.02	0.030	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.820	0.95
MW023	13/08/2014	Normal	ES1418075	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW023	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW023	21/03/2017	Normal	EB1705929	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW023	12/04/2019	Normal	EB1909697	<0.02	<0.02	0.020	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW024	27/08/2014	Normal	EB1441408	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW024	18/10/2018	Normal	EB1826391	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW025	27/08/2014	Normal	EB1441408	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW026	27/08/2014	Normal	EB1441408	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW027	27/08/2014	Normal	EB1441408	-	-	-	-	8.230	-	-	-	-	-	0.390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW027	30/03/2016	Normal	EB1608596	0.940	-	5.640	-	5.530	<0.02	-	-	0.470	0.080	0.750	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	11.170	-
MW027	2/05/2017	Normal	EB1709201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.400	-
MW027	2/05/2017	Normal	EB1709201	0.910	1.130	7.270	0.670	17.100	<0.02	0.200	0.230	1.230	0.290	0.620	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	24.370	29.6
MW027	2/05/2017	Interlab_D	AEC006/170508	0.680	-	6.600	-	10.000	<0.02	0.250	0.260	0.430	0.170	0.430	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW027	2/05/2017	Field_D	EB1709201																														23.540	
MW027	2/05/2017	Field_D	EB1709201	0.820	1.050	6.540	0.570	17.000	<0.02	0.200	0.200	1.090	0.260	0.550	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	23.500	28.28
MW027	18/04/2018	Normal	EB1809894	0.850	0.890	6.870	0.550	15.400	<0.02	0.300	0.280	1.350	0.230	0.460	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	22.300	27.2
MW027	18/04/2019	Normal	EB1910276	0.650	0.810	5.920	0.490	9.790	<0.02	<0.1	0.220	1.160	0.180	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.700	19.6
MW028	27/08/2014	Normal	EB1441408					2.270	-					0.110																<0.1	<0.1			
MW028	30/03/2016	Normal	EB1608596	0.420	-	2.320	-	2.530	<0.02	-	-	0.150	0.030	0.400	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	4.850	-
MW028	2/05/2017	Normal	EB1709201	0.390	0.500	3.000	0.220	4.120	<0.02	<0.1	0.080	0.420	0.100	0.210	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.120	9.04
MW029	27/08/2014	Normal	EB1441408	-	-	-	-	0.040	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW029	26/05/2016	Normal	EB1614024	-	-	-	-	0.090	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW029	6/04/2017	Normal	EB1707194	-	-	0.340	-	0.100	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.440	-
MW029	11/04/2019	Normal	EB1909706	0.050	0.050	0.350	<0.02	0.130	<0.02	<0.1	<0.02	0.070	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.480	0.65
MW030	27/08/2014	Normal	EB1441408	-	-	-	-	2.200	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW030	27/08/2014	Interlab_D	430575	-	-	-	-	1.300	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-
MW030	27/08/2014	Field_D	EB1441408	-	-	-	-	2.800	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW030	5/02/2016	Normal	EB1603065	1.010	-	6.970	-	3.460	<0.02	-	-	1.500	0.220	0.250	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	10.430	-
MW030	5/02/2016	Interlab_D	488333	-	-	-	-	<0.04	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW030	5/02/2016	Field_D	EB1603065	-	-	-	-	3.900	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW030	24/03/2017	Normal	EB1705977	-	-	5.470	-	3.020	-	-	-	-	-	0.220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	8.490	-
MW031	27/08/2014	Normal	EB1441408	-	-	-	-	11.500	-	-	-	-	-	0.960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW031	27/05/2016	Normal	EB1614025	-	-	-	-	13.500	-	-	-	-	-	0.480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW031	28/04/2017	Normal	EB1708621																														14.440	
MW031	28/04/2017	Normal	EB1708621	0.880	0.560	7.200	0.400	7.240	<0.02	<0.1	0.100	0.160	0.030	0.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.400	16.9
MW031	28/04/2017	Interlab_D	AEC006_170502	0.390	-	2.800	-	4.300	<0.02	0.130	0.120	0.620	0.093	0.230	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	-	<0.05	<0.05	-	7.100	-
MW031	28/04/2017	Field_D	EB1708621																														14.450	
MW031	28/04/2017	Field_D	EB1708621	0.920	0.540	6.760	0.400	7.690	<0.02	<0.1	0.110	0.150	0.040	0.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.400	16.93
MW031	8/05/2019	Normal	EB1911746	0.310	0.280	2.110	0.150	4.670	<0.02	<0.1	0.090	0.510	0.070	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.780	8.36
MW031	26/03/2020	Normal	EB2008689	0.430	0.410	2.770	0.220	6.690	<0.04	<0.2	0.330	0.600	0.110	0.230	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.09	<0.04	<0.09	<0.05	<0.05	<0.05	<0.05	9.460	11.8
MW032	27/08/2014	Normal	EB1441408	-	-	-	-	3.750	-	-	-	-	-	0.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW032	5/02/2016	Normal	EB1603065	0.360	-	2.650	-	6.730	<0.02	-	-	0.500	0.060	0.210	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	9.380	-
MW032	21/03/2017	Normal	EB1705931	-	-	2.730	-	7.950	-	-	-	-	-	0.180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	10.680	-
MW032	18/04/2019	Normal	EB1910273	0.240	0.310	2.690	0.130	6.260	<0.02	<0.1	0.070	0.340	0.060	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.950	10.3
MW032	30/03/2020	Normal	EB2009344	0.270	0.300	2.490	0.210	5.930	0.040	0.100	0.070	0.330	0.070	0.180	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.020	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.420	10.0
MW032	19/04/2021	Normal	EB2110956	0.220	0.290	1.850	0.140	5.330	<0.02	<0.1	0.070	0.280	0.050	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.180	8.37
MW032	21/04/2022	Normal	EB2211324	0.250	0.340	2.190	0.120	3.990	<0.03	<0.1	0.060	0.230	0.050	0.150	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.180	7.38
MW032	17/04/2023	Normal	EB2312082-BL	0.27	0.32	2.52	0.15	7.19	<0.02	0.1	0.08	0.26	0.06	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	9.71	11.100
MW033	27/08/2014	Normal	EB1441408	-	-	-	-	1.170	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW033	5/02/2016	Normal	EB1603065	-	-	-	-	1.220	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW033	24/03/2017	Normal	EB1705982	-	-	1.800	-	0.830	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	2.630	-
MW034	27/08/2014	Normal	EB1441408	-	-	-	-	11.200	-	-	-	-	-	0.390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW034	8/02/2016	Normal	EB1603686	0.940	-	7.000	-	16.700	<0.02	-	-	1.660	0.180	0.540	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	23.700	-
MW034	8/02/2016	Interlab_D	489126	-	-	-	-	1.300	-	-	-	-	-	0.460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW034	8/02/2016	Field_D	EB1603686	-	-	-	-	16.300	-	-	-	-	-	0.490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW034	21/03/2017	Normal	EB1705930	-	-	4.910	-	21.400	-	-	-	-	-	0.420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	26.310	-
MW034	25/04/2018	Normal	EB1810802	0.360	0.350	2.710	0.210	17.300	<0.02	0.200	0.130	0.550	0.110	0.260	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	20.000	22.2
MW034	8/05/2019	Normal	EB1911743	0.290	0.260	2.530	0.150	12.000	<0.02	<0.1	0.100	0.480	0.080	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.500	16.1
MW035	27/08/2014	Normal	EB1441408	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW036	26/09/2014	Normal	EB1443316	-	-	-	-	2.960	-	-	-	-	-	0.130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW036	26/09/2014	Interlab_D	433638	-	-	-	-	4.100	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-
MW036	26/09/2014	Field_D	EB1443316	-	-	-	-	2.810	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW036	4/02/2016	Normal	EB1603065	0.410	-	4.700	-	2.790	<0.02	-	-	0.760	0.090	0.160	<0.02	<0.02	<0.05	<0.

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW038	1/04/2016	Normal	EB1608598	0.050	-	0.180	-	0.390	<0.02	-	-	<0.02	<0.02	0.060	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	0.570	-
MW038	18/10/2017	Normal	EB1721735	0.040	0.060	0.340	0.030	0.770	<0.02	<0.1	<0.02	0.070	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.110	1.35
MW038	19/10/2018	Normal	EB1826393	0.040	0.030	0.240	<0.02	0.390	<0.02	<0.1	<0.02	0.040	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.630	0.77
MW038	16/04/2019	Normal	EB1910260	0.030	0.030	0.210	<0.02	0.420	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.630	0.75
MW038	24/10/2019	Normal	EB1928474	0.030	0.030	0.170	<0.02	0.280	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.450	0.57
MW038	26/03/2020	Normal	EB2008687	0.040	0.040	0.260	0.030	0.590	<0.02	<0.1	<0.02	0.060	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.850	1.05
MW038	21/10/2020	Normal	EB2027843	0.030	0.030	0.180	<0.02	0.380	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.560	0.68
MW038	15/04/2021	Normal	EB2110944	0.040	0.040	0.220	0.020	0.500	<0.02	<0.1	<0.02	0.060	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.720	0.91
MW038	15/10/2021	Normal	EB2129551	0.050	0.050	0.320	0.030	0.620	<0.02	<0.1	<0.02	0.080	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.940	1.19
MW038	3/11/2022	Normal	EB2232888	0.06	0.05	0.31	0.03	0.62	<0.02	<0.1	<0.02	0.07	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.93	1.18
MW038	13/04/2023	Normal	EB2311393-AB	0.07	0.06	0.36	0.03	0.71	<0.02	<0.1	<0.02	0.07	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.07	1.340
MW038	27/10/2023	Normal	EB2333545	0.06	0.05	0.4	0.03	0.84	<0.02	<0.1	<0.02	0.07	0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.24	1.53
MW039	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW039	5/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW040	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW040	19/10/2016	Normal	EB1625191	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW040	18/10/2017	Normal	EB1721729	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW041	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW041	5/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW041	3/05/2017	Normal	EB1709216	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW042	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW042	5/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW043	29/10/2014	Normal	EB1445390	-	-	-	-	14.200	-	-	-	-	-	0.830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW043	8/02/2016	Normal	EB1603686	1.080	-	7.570	-	10.700	<0.02	-	-	1.780	0.190	0.420	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	18.270	-
MW043	8/02/2016	Interlab_D	489126	-	-	-	-	0.500	-	-	-	-	-	0.420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW043	8/02/2016	Field_D	EB1603686	-	-	-	-	11.200	-	-	-	-	-	0.480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW044	16/12/2014	Normal	ES1428296	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW044	16/12/2014	Interlab_D	443042	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.040	<0.01	-	-	-
MW044	16/12/2014	Field_D	ES1428296	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW044	10/02/2016	Normal	EB1603686	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW045	17/11/2014	Normal	EB1446505	-	-	-	-	0.080	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW045	8/02/2016	Normal	EB1603686	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW045	23/05/2019	Normal	EB1913220	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW046	18/11/2014	Normal	EB1446505	-	-	-	-	2.960	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW046	18/11/2014	Interlab_D	439475	-	-	-	-	3.000	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-
MW046	18/11/2014	Field_D	EB1446505	-	-	-	-	2.150	-	-	-	-	-	0.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW046	14/07/2016	Normal	EB1618083	-	-	3.210	-	1.470	-	-	-	-	-	0.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	4.680	-
MW046	12/07/2017	Normal	EB1714320	0.480	0.410	3.210	0.120	1.930	<0.02	<0.1	0.130	0.650	0.070	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.140	7.1
MW046	12/07/2017	Interlab_D	AECO06/170719/1	0.450	-	3.200	-	1.600	<0.02	0.130	0.170	0.780	0.082	0.110	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
MW046	12/07/2017	Field_D	EB1714320	0.510	0.430	3.510	0.120	1.840	<0.02	<0.1	0.140	0.670	0.080	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.350	7.41
MW047	18/11/2014	Normal	EB1446505	-	-	-	-	5.690	-	-	-	-	-	0.190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW047	17/03/2016	Normal	EB1614434	1.830	1.960	9.430	0.800	6.550	<0.02	<0.1	0.700	2.340	0.420	0.540	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.980	24.6
MW047	21/03/2017	Normal	EB1705926	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.800	-
MW047	21/03/2017	Normal	EB1705926	1.370	1.680	8.690	0.660	12.100	<0.02	<0.1	0.440	2.480	0.350	0.970	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	20.790	28.6
MW047	26/04/2017	Normal	EB1708644	1.690	1.350	12.100	0.520	10.200	<0.02	<0.1	0.180	0.540	0.040	0.450	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	22.300	27.1
MW047	12/07/2017	Normal	EB1714312	1.450	1.420	8.210	0.540	13.400	<0.02	0.200	0.330	1.930	0.380	0.740	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	21.600	28.6
MW047	22/11/2018	Normal	EB1828776	0.690	0.660	4.760	0.240	6.400	<0.02	0.200	0.260	1.250	0.170	0.380	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	11.200	15.0
MW048	18/11/2014	Normal	EB1446505	-	-	-	-	0.250	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW048	9/02/2016	Normal	EB1603686	-	-	-	-	0.320	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW048	29/03/2017	Normal	EB1706404	-	-	0.620	-	0.310	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.930	-
MW049	18/11/2014	Normal	EB1446505	-	-	-	-	12.400	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW049	26/05/2016	Normal	EB1614016	-	-	-	-	8.790	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW049	26/05/2016	Interlab_D	503339	-	-	-	-	1.100	-	-	-	-	-	0.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW049	26/05/2016	Field_D	EB1614016	-	-	-	-	8.970	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW050	16/12/2014	Normal	ES1428296	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW050	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW050	22/03/2017	Normal	EB1705925	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW051	16/12/2014	Normal	ES1428296	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW051	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW051	29/03/2017	Normal	EB1706409	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW052	16/12/2014	Normal	ES1428296	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW052	2/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW053	28/01/2015	Normal	EB1511608	-	-	-	-	0.120	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW053	8/02/2016	Normal	EB1603686	-	-	-	-	0.270	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW053	8/02/2016	Interlab_D	489126	-	-	-	-	<0.04	-	-	-	-	-	<0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW053	8/02/2016	Field_D	EB1603686	-	-	-	-	0.290	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW053	22/03/2017	Normal	EB1705923	0.180	0.150	1.170	0.040	0.470	<0.02	<0.1	<0.02	0.120	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.640	2.2
MW054	28/01/2015	Normal	EB1511608	-	-	-	-	0.090	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW054	9/02/2016	Normal	EB1603686	-	-	-	-	0.130	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW054	22/03/2017	Normal	EB1705922	-	-	0.170	-	0.160	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.330	-
MW055	28/01/2015	Normal	EB1511608	-	-	-	-	0.980	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW055	28/01/2015	Interlab_D	446050	0.270	-	1.600	-	0.460	-	-	-	0.310	0.040	0.070	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	-	-	-	-	-	-	<0.05	<0.01	-	2.060	-
MW055	28/01/2015	Field_D	EB1511608	-	-	-	-	1.610	-	-	-	-	-	0.070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW056	6/02/2015	Normal	EB1512362	-	-	-	-	0.150	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW056	6/02/2015	Interlab_D	446799	-	-	-	-	0.030	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW056	6/02/2015	Field_D	EB1512362	-	-	-	-	0.180	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW056	26/05/2016	Normal	EB1614021	-	-	-	-	0.070	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW056	25/08/2017	Normal	EB1717512	0.040	0.030	0.340	<0.02	0.080	<0.02	<0.1	0.030	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.420	0.57
MW056	17/10/2018	Normal	EB1826394	0.040	0.020	0.280	<0.02	0.060	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.340	0.45
MW056	9/04/2019	Normal	EB1909645	0.040	0.030	0.400	<0.02	0.070	<0.02	<0.1	0.020	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.470	0.63
MW056	23/10/2020	Normal	EB2027826	0.030	0.030	0.250	<0.02	0.060	<0.02	<0.1	0.020	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.310	0.45
MW056	13/04/2021	Normal	EB2110940	0.050	0.040	0.330	<0.02	0.120	<0.02	<0.1	0.030	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.450	0.66
MW056	14/10/2021	Normal	EB2129558	0.050	0.030	0.320	<0.02	0.110	<0.02	<0.1	0.020	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.430	0.62
MW056	12/04/2022	Normal	EB2211274	0.070	0.040	0.200	<0.02	0.070	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.270	0.41
MW056	27/10/2022	Normal	EB2232879	0.05	0.04	0.33	<0.02	0.09	<0.02	<0.1	0.03	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.42	0.61
MW056	17/04/2023	Normal	EB2312082-BH	0.04	0.04	0.29	<0.02	0.11	<0.02	<0.1	0.03	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.4	0.560
MW056	25/10/2023	Normal	EB2333542	0.04	0.02	0.25	<0.02	0.1	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.35	0.46
MW057	6/02/2015	Normal	EB1512362	-	-	-	-	0.140	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW057	9/02/2016	Normal	EB1603686	-	-	-	-	0.100	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW057	22/03/2017	Normal	EB1705921	-	-	0.420	-	0.080	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.500	-
MW058	6/02/2015	Normal	EB1512362	-	-	-	-	0.100	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW058	5/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW058	24/03/2017	Normal	EB1705989	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW059	1/07/2015	Normal	EB1522109	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW059	13/07/2016	Normal	EB1618079	-	-	0.260	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	0.260	-
MW059	12/07/2017	Normal	EB1714300	0.150	0.160	0.370	<0.02	<0.01	<0.02	<0.1	<0.02	0.060	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.370	0.74
MW060	1/07/2015	Normal	EB1522109	-	-	-	-	1.290	-	-	-	-	-	0.070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW060	14/07/2016	Normal	EB1618082	-	-	0.870	-	1.450	-	-	-	-	-	0.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	2.320	-
MW061	27/08/2015	Normal	EB1527391	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW061	27/08/2015	Interlab_D	470480	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW061	27/08/2015	Field_D	EB1527391	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW061	13/07/2016	Normal	EB1618077	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.02	-
MW061	19/10/2017	Normal	EB1721732	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01

**Revision

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids												PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW062	29/09/2015	Normal	EB1530552	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW062	29/09/2015	Interlab_D	474694	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW062	29/09/2015	Field_D	EB1530552	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW062	10/01/2017	Normal	EB1700654	-	-	0.060	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.060	-
MW063	12/10/2015	Normal	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW063	10/01/2017	Normal	EB1700645	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW063	17/03/2017	Normal	EB1705316	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW063	26/05/2017	Normal	EB1710855	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW063	19/10/2017	Normal	EB1721721	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW064	12/10/2015	Normal	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW064	10/01/2017	Normal	EB1700645	-	-	<0.02	-	0.020	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.020	-
MW064	17/03/2017	Normal	EB1705316	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW064	26/05/2017	Normal	EB1710855	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW064	19/10/2017	Normal	EB1721721	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW065	12/10/2015	Normal	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW066	1/02/2016	Normal	EB1602999	-	-	-	-	0.170	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW066	1/02/2016	Interlab_D	488341	-	-	-	-	<0.04	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW066	1/02/2016	Field_D	EB1602999	-	-	-	-	0.180	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW066	23/03/2017	Normal	EB1705995	-	-	1.070	-	0.290	-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	1.360	-
MW067	1/02/2016	Normal	EB1602999	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW068	16/03/2016	Normal	EB1607661	-	-	-	-	0.080	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW068	7/04/2017	Normal	EB1707207	<0.02	<0.02	0.120	<0.02	0.110	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.230	0.25
MW069	16/03/2016	Normal	EB1607655	-	-	-	-	0.630	-	-	-	-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW069	28/04/2017	Normal	EB1708636	0.760	0.480	5.330	0.170	0.680	<0.02	<0.1	0.080	0.070	<0.02	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.010	7.67
MW070	16/03/2016	Normal	EB1607667	-	-	-	-	0.250	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW070	16/03/2016	Interlab_D	494201	-	-	-	-	0.460	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW070	16/03/2016	Field_D	EB1607667	-	-	-	-	0.240	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW070	4/04/2017	Normal	EB1707190	-	-	0.540	-	0.350	-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.890	-
MW070	4/04/2017	Field_D	EB1707190	-	-	0.550	-	0.340	-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.890	-
MW070	20/04/2017	Interlab_D	AECC006_170410	-	-	0.440	-	0.360	-	-	-	-	-	0.033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.800	-
MW071	29/03/2016	Normal	EB1608597	-	-	-	-	0.960	-	-	-	-	-	0.180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW071	29/03/2016	Interlab_D	495209	-	-	-	-	0.490	-	-	-	-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW071	29/03/2016	Field_D	EB1608597	-	-	-	-	1.110	-	-	-	-	-	0.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW071	3/05/2017	Normal	EB1709206	0.340	0.280	1.260	0.100	1.580	<0.02	<0.1	<0.02	0.030	0.030	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.840	3.76
MW072	12/04/2016	Normal	EB1609872	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW073	26/05/2016	Normal	EB1614013	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW074	26/05/2016	Normal	EB1614010	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW075	26/05/2016	Normal	EB1614011	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW076	26/05/2016	Normal	EB1614009	-	-	-	-	0.730	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW077	13/07/2016	Normal	EB1618091	-	-	4.360	-	5.630	-	-	-	-	-	0.330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	9.990	-
MW077	12/07/2017	Normal	EB1714309	0.620	0.540	4.540	0.210	8.180	<0.02	0.300	0.140	0.790	0.160	0.280	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	12.700	15.8
MW078	13/07/2016	Normal	EB1618084	-	-	0.820	-	1.080	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	1.900	-
MW079	13/07/2016	Normal	EB1618085	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.02	-
MW079	11/07/2017	Normal	EB1714329	<0.02	<0.02	0.040	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW080	19/09/2016	Normal	EB1623092	0.410	0.260	2.070	0.100	2.800	<0.02	<0.1	0.060	0.150	0.020	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.870	5.96
MW080	19/09/2016	Interlab_D	516989	0.240	-	1.700	-	4.000	<0.01	<0.1	0.050	0.190	0.050	0.120	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	-	<0.05	-	-	<0.01	<0.05	<0.01	-	-	5.700	-
MW080	19/09/2016	Field_D	EB1623092	0.390	0.260	2.220	0.120	3.220	<0.02	<0.1	0.050	0.130	0.020	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.440	6.5
MW080	18/10/2017	Normal	EB1721743	0.190	0.230	1.830	0.120	2.930	<0.02	<0.1	0.040	0.280	0.050	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.760	5.84
MW081	19/09/2016	Normal	EB1623082	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW081	19/10/2017	Normal	EB1721725	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW082	20/09/2016	Normal	EB1623087	0.160	0.060	0.320	<0.02	0.420	<0.02	<0.1	<0.02	0.080	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.740	1.06
MW083	20/09/2016	Normal	EB1623074	0.360	0.330	2.550	0.120	3.140	<0.02	<0.1	<0.02	0.300	0.070	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.690	7.04
MW083	17/10/2017	Normal	EB1721746	0.280	0.400	2.010	0.140	3.850	<0.02	<0.1	0.080	0.380	0.140	0.230	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.860	7.51
MW083	17/10/2017	Field_D	EB1721746	0.200	0.270	1.540	0.100	2.830	<0.02	<0.1	0.050	0.260	0.090	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.370	5.51
MW083	19/10/2017	Interlab_D	AECC006_171025_1	0.200	-	1.300	-	0.920	<0.02	0.068	0.070	0.350	0.045	0.069	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW084	20/09/2016	Normal	EB1623089	0.040	0.020	0.510	<0.02	0.410	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.920	1.01
MW084	18/10/2018	Normal	EB1826404	0.060	0.040	0.340	<0.02	0.120	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.460	0.59
MW084	11/04/2019	Normal	EB1909700	0.060	0.040	0.420	<0.02	0.110	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.530	0.66
MW084	11/04/2019	Interlab_D	RN1230420	0.056	0.042	0.370	<0.01	0.130	<0.01	<0.05	<0.02	0.027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW084	11/04/2019	Field_D	EB1909687	0.060	0.030	0.410	<0.02	0.100	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.510	0.63
MW084	24/10/2019	Normal	EB1928477	0.060	0.040	0.420	<0.02	0.130	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.550	0.70
MW084	26/03/2020	Normal	EB2008684	0.090	0.080	0.750	<0.02	0.190	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.940	1.18
MW085	20/09/2016	Normal	EB1623091	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW086	21/09/2016	Normal	EB1623077	0.290	0.220	1.970	0.090	1.390	<0.02	<0.1	<0.02	0.250	0.040	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.360	4.32
MW086	17/10/2017	Normal	EB1721737	0.120	0.140	1.330	0.090	1.330	<0.02	<0.1	<0.02	0.200	0.030	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.660	3.31
MW087	21/09/2016	Normal	EB1623076	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW087	19/10/2017	Normal	EB1721724	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW088	22/09/2016	Normal	EB1623094	0.060	0.030	0.270	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.320	0.41
MW088	17/10/2017	Normal	EB1721742	0.030	0.040	0.320	<0.02	0.070	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.390	0.51
MW089	20/10/2016	Normal	EB1625189	-	-	0.450	-	0.750	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	1.200	-
MW089	18/10/2017	Normal	EB1721715	0.070	0.090	0.730	0.070	1.540	<0.02	<0.1	<0.02	0.190	0.030	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.270	2.79
MW090	10/01/2017	Normal	EB1700652	-	-	4.200	-	4.290	-	-	-	-	-	0.340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	8.490	-
MW090	19/10/2017	Normal	EB1721744	0.190	0.210	1.090	0.060	0.970	<0.02	<0.1	0.060	0.390	0.070	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.060	3.13
MW090	19/10/2017	Field_D	EB1721744	0.300	0.400	2.150	0.140	4.040	<0.02	<0.1	0.070	0.360	0.100	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.190	7.78
MW091	11/01/2017	Normal	EB1700646	-	-	1.560	-	6.620	-	-	-	-	-	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	8.180	-
MW091	11/01/2017	Interlab_D	530462	0.190	-	1.300	-	5.900	<0.01	0.090	0.070	0.470	0.050	0.180	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	<0.05	-	-	<0.05	-	<0.01	<0.05	<0.01	-	7.200	-
MW091	11/01/2017	Field_D	EB1700646	-	-	1.710	-	7.880	-	-	-	-	-	0.210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	9.590	-
MW091	18/10/2017	Normal	EB1721720	0.190	0.200	1.380	0.160	3.480	<0.02	<0.1	0.060	0.330	0.050	0.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.860	5.98
MW091	19/04/2018	Normal	EB1809897	0.300	0.260	2.100	0.210	5.500	<0.02	0.100	0.100	0.470	0.080	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.600	9.29
MW091	18/04/2019	Normal	EB1910274	0.240	0.260	1.890	0.170	4.480	<0.02	<0.1	0.080	0.440	0.070	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.370	7.79
MW092	10/03/2017	Normal	EB1704805	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW092	10/03/2017	Interlab_D	AECC006_170314_2	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW092	10/03/2017	Field_D	EB1704805	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW093	10/03/2017	Normal	EB1704806	-	-	0.040	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.040	-
MW094	21/03/2017	Normal	EB1705911	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW094	21/03/2017	Interlab_D	AECC006_170328_1	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW094	21/03/2017	Field_D	EB1705911	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW095	7/04/2017	Normal	EB1707234	0.030	<0.02	0.040	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	0.07
MW096	18/05/2017	Normal	EB1710281	0.030	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.03
MW097	11/07/2017	Normal	EB1714323	0.550	0.490	2.610	0.140	2.470	<0.02	<0.1	0.130	0.740	0.140	0.230	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.080	7.5
MW097	22/11/2018	Normal	EB1828775	0.070	0.060	0.370	0.020	0.300	<0.02	<0.1	0.030	0.110	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.670	0.98
MW098	17/10/2017	Normal	EB1721740	0.080	0.040	0.100	<0.02	<0.01	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.100	0.25
MW099	28/02/2018	Normal	EB1805779	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW100	6/08/2018	Normal	EB1819012	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW102	5/09/2017	Normal	EB1718322	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW103	16/08/2017	Normal	EB1716972	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW103	29/08/2017	Normal	EB1717689	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW104	15/08/2017	Normal	EB1716714	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW104	17/08/2017	Normal	EB1716972	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW104	29/08/2017	Normal	EB1717689	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW105	10/08/2017	Normal	EB1716552	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW105	29/08/2017	Normal	EB1717689	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW106	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW106	8/02/2016	Normal	EB1603686	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW106	29/03/2017	Normal	EB1706420	-	-	0.230	-	0.180	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.410	-
MW106	17/10/2018	Normal	EB1826398	<0.02	<0.02	0.040	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW106	17/04/2019	Normal	EB1910281	<0.02	<0.02	0.100	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.170	0.17
MW107	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW107	8/02/2016	Normal	EB1603686	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW107	29/03/2017	Normal	EB1706420	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW107	19/04/2018	Normal	EB1809891	<0.02	<0.02	0.020	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW107	17/10/2018	Normal	EB1826398	<0.02	<0.02	0.020	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW107	17/04/2019	Normal	EB1910281	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW108	29/11/2013	Normal	EB1329481	-	-	-	-	0.290	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.800	<0.5	-	-	-
MW108	30/01/2014	Normal	EB1402209	-	-	-	-	0.540	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW108	26/05/2014	Normal	EB1412900	-	-	-	-	0.250	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW108	8/02/2016	Normal	EB1603686	-	-	-	-	0.790	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW108	29/03/2017	Normal	EB1706420	-	-	1.040	-	0.820	-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	1.860	-
MW108	17/10/2018	Normal	EB1826398	0.090	0.070	0.520	0.030	0.420	<0.02	<0.1	0.030	0.120	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.940	1.31
MW108	17/04/2019	Normal	EB1910281	0.080	0.100	0.730	0.030	0.730	<0.02	<0.1	0.020	0.160	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.460	1.91
MW109	29/11/2013	Normal	EB1329481	-	-	-	-	1.600	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.500	<0.5	-	-	-
MW109	29/11/2013	Interlab_D	402028	-	-	-	-	1.300	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW109	29/11/2013	Field_D	EB1329481	-	-	-	-	1.490	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.300	<0.5	-	-	-
MW109	30/01/2014	Normal	EB1402209	-	-	-	-	2.250	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW109	26/05/2014	Normal	EB1412900	-	-	-	-	1.000	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW109	8/02/2016	Normal	EB1603686	-	-	-	-	1.610	-	-	-	-	-	0.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW109	29/03/2017	Normal	EB1706420	-	-	1.470	-	1.160	-	-	-	-	-	0.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	2.630	-
MW110	28/10/2014	Normal	EB1445390	-	-	-	-	4.510	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW111	23/08/2017	Normal	EB1717729	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW112	29/01/2014	Normal	EB1402209	-	-	-	-	8.650	-	-	-	-	-	0.440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW112	22/05/2014	Normal	EB1412441	-	-	-	-	1.480	-	-	-	-	-	0.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW112	10/02/2016	Normal	EB1603686	-	-	-	-	1.840	-	-	-	-	-	0.190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW112	23/03/2017	Normal	EB1705972	-	-	1.500	-	1.630	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	3.130	-
MW112	23/03/2017	Interlab_D	AEC006_170329	-	-	0.910	-	1.200	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	2.110	-
MW112	23/03/2017	Field_D	EB1705972	-	-	1.550	-	1.690	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	3.240	-
MW112	28/02/2018	Normal	EB1805777	0.200	0.180	1.230	0.080	1.640	<0.02	<0.1	0.110	0.470	0.080	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	2.870	4.10
MW112	28/02/2018	Interlab_D	AEC006_180306_1	0.180	0.150	1.100	0.054	1.600	<0.01	0.083	0.090	0.370	0.059	0.110	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
MW112	28/02/2018	Field_D	EB1805777	0.210	0.190	1.190	0.080	1.520	<0.02	<0.1	0.120	0.470	0.080	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	2.710	3.96
MW113	30/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW113	22/05/2014	Normal	EB1412441	-	-	-	-	0.020	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW113	5/02/2016	Normal	EB1603065	-	-	-	-	0.080	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW113	24/03/2017	Normal	EB1705988	-	-	0.230	-	0.070	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.300	-
MW113	11/04/2019	Normal	EB1909695	0.020	0.030	0.200	<0.02	0.080	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.280	0.38
MW113	11/04/2019	Interlab_D	RN1230420	0.029	0.030	0.170	<0.01	0.110	<0.01	<0.05	<0.02	0.042	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW113	11/04/2019	Field_D	EB1909687	0.030	0.020	0.200	<0.02	0.090	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.290	0.39
MW113	27/03/2020	Normal	EB2009337	0.060	0.060	0.340	0.020	0.260	<0.02	<0.1	<0.02	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.600	0.82
MW113	22/05/2020	Normal	EB2013711	0.060	0.040	0.310	0.020	0.200	<0.02	<0.1	0.030	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.510	0.74
MW113	15/04/2021	Normal	EB2110946	<0.10	0.050	0.300	<0.02	0.150	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.450	0.57
MW113	12/04/2022	Normal	EB2211301	0.040	0.050	0.280	<0.02	0.130	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.410	0.55
MW113	20/04/2023	Normal	EB2312082-BR	0.03	0.03	0.22	<0.02	0.14	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.36	0.460
MW114	31/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW114	23/05/2014	Normal	EB1412619	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW114	16/03/2016	Normal	EB1607673	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW114	6/04/2017	Normal	EB1707195	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW114	18/04/2018	Normal	EB1809895	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW114	11/04/2019	Normal	EB1909709	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW114	27/03/2020	Normal	EB2009343	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW114	28/04/2021	Normal	EB2111764	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW114	20/04/2022	Normal	EB2211294	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW114	20/04/2023	Interlab_D	RN1391817	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
MW114	20/04/2023	Normal	EB2312082-BS	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW114	20/04/2023	Field_D	EB2312082-BS	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW115	26/05/2014	Normal	EB1412900	-	-	-	-	0.270	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW115	8/02/2016	Normal	EB1603686	-	-	-	-	0.600	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW116	17/11/2014	Normal	EB1446505	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW116	3/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW116	23/03/2017	Normal	EB1705976	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW117	26/05/2014	Normal	EB1412900	-	-	-	-	0.140	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW117	8/02/2016	Normal	EB1603686	-	-	-	-	0.630	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW117	29/03/2017	Normal	EB1706413	-	-	1.520	-	0.760	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	2.280	-
MW118	31/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW118	5/06/2014	Normal	EB1413760	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW118	16/03/2016	Normal	EB1607673	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW118	6/04/2017	Normal	EB1707195	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW118	18/04/2018	Normal	EB1809895	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW118	11/04/2019	Normal	EB1909709	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW118	27/03/2020	Normal	EB2009343	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW118	28/04/2021	Normal	EB2111764	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW118	20/04/2022	Normal	EB2211294	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW118	20/04/2023	Interlab_D	RN1391817	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
MW118	20/04/2023	Normal	EB2312082-BS	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW118	20/04/2023	Field_D	EB2312082-BS	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW119	6/06/2014	Normal	EB1413760	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW119	19/10/2016	Normal	EB1625289	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW119	16/04/2019	Normal	EB1910256	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW120	27/05/2014	Normal	EB1412900	-	-	-	-	0.200	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW120	16/03/2016	Normal	EB1607653	-	-	-	-	1.270	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW120	7/04/2017	Normal	EB1707196	-	-	0.490	-	1.110	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	1.600	-
MW121	21/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW122	31/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW122	23/05/2014	Normal	EB1412619	-	-	-	-	0.030	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW122	16/03/2016	Normal	EB1607673	-	-	-	-	0.030	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW122	6/04/2017	Normal	EB1707195	-	-	0.260	-

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW122	20/04/2022	Normal	EB2211294	0.170	0.180	0.990	0.050	0.970	<0.02	<0.1	0.070	0.270	0.040	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.960	2.81
MW122	20/04/2023	Normal	EB2312082-BS	0.26	0.25	1.99	0.17	4.18	<0.02	<0.1	0.14	0.49	0.08	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.09	0.05	<0.05	6.17	7.850
MW123	30/01/2014	Normal	EB1402209	-	-	-	-	0.160	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW123	22/05/2014	Normal	EB1412441	-	-	-	-	0.120	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW123	5/02/2016	Normal	EB1603065	-	-	-	-	0.190	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW123	24/03/2017	Normal	EB1705986	-	-	0.460	-	0.140	-	-	-	-	-	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.600	-
MW124	29/01/2014	Normal	EB1402209	-	-	-	-	2.600	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW124	22/05/2014	Normal	EB1412441	-	-	-	-	0.640	-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW124	19/10/2016	Normal	EB1625215	-	-	2.700	-	1.870	-	-	-	-	-	0.180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	4.570	-
MW124	14/04/2021	Normal	EB2110564	0.680	0.600	3.180	0.140	1.990	<0.02	0.200	0.310	1.120	0.130	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.170	8.55
MW124	11/10/2021	Normal	EB2129428	0.740	0.780	3.930	0.160	2.460	<0.02	0.200	0.320	1.220	0.150	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.210	<0.05	<0.05	<0.05	<0.05	6.390	10.4
MW125	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW125	8/02/2016	Normal	EB1603686	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW125	22/03/2017	Normal	EB1705920	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW126	29/01/2014	Normal	EB1402209	-	-	-	-	6.260	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.100	<0.5	-	-	-
MW126	29/01/2014	Interlab_D	407332	-	-	-	-	0.200	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW126	29/01/2014	Field_D	EB1402209	-	-	-	-	8.600	-	-	-	-	-	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.100	<0.5	-	-	-
MW126	22/05/2014	Normal	EB1412441	-	-	-	-	1.880	-	-	-	-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.100	<0.1	-	-	-
MW126	22/05/2014	Interlab_D	419530	-	-	-	-	0.980	-	-	-	-	-	0.170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.270	0.020	-	-	-
MW126	22/05/2014	Field_D	EB1412441	-	-	-	-	1.660	-	-	-	-	-	0.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.100	<0.1	-	-	-
MW126	19/10/2016	Normal	EB1625215	-	-	3.530	-	3.560	-	-	-	-	-	0.220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.140	-	-	7.090	-
MW126	19/10/2016	Interlab_D	520881	-	-	2.700	-	4.400	-	-	-	-	-	0.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.090	-	-	7.100	-
MW126	19/10/2016	Field_D	EB1625215	-	-	3.470	-	3.630	-	-	-	-	-	0.220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.110	-	-	7.100	-
MW126	11/10/2021	Normal	EB2129428	0.330	0.390	6.370	1.620	25.500	<0.02	0.200	0.320	1.890	0.220	0.860	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.080	<0.05	<0.05	31.900	37.8
MW127	28/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW127	27/05/2016	Normal	EB1614019	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW127	12/07/2017	Normal	EB1714305	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW128	30/01/2014	Normal	EB1402209	-	-	-	-	0.030	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW128	22/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW128	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW128	22/03/2017	Normal	EB1705924	-	-	<0.02	-	0.010	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.010	-
MW129	30/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW129	22/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW129	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW129	23/03/2017	Normal	EB1705983	-	-	0.020	-	0.020	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.040	-
MW130	17/11/2014	Normal	EB1446505	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW130	2/02/2016	Normal	EB1603065	-	-	-	-	0.060	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW130	22/03/2017	Normal	EB1705932	-	-	0.070	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.070	-
MW132	30/01/2014	Normal	EB1402209	-	-	-	-	8.470	-	-	-	-	-	0.880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW132	22/05/2014	Normal	EB1412441	-	-	-	-	4.650	-	-	-	-	-	0.620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW132	16/03/2016	Normal	EB1607669	1.700	-	14.200	-	5.970	<0.02	-	-	2.880	0.290	0.800	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	<0.1	<0.1	-	20.170	-
MW132	16/03/2016	Interlab_D	494199	-	-	-	-	8.000	-	-	-	-	-	0.880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW132	16/03/2016	Field_D	EB1607669	-	-	-	-	6.040	-	-	-	-	-	0.780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW132	2/05/2017	Normal	EB1709215	2.170	2.440	15.200	0.810	11.000	<0.02	0.700	0.580	3.040	0.690	1.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	26.200	38
MW132	18/04/2018	Normal	EB1809901	1.710	1.600	17.000	0.660	9.820	<0.02	0.500	0.640	2.920	0.490	0.820	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	26.800	36.2
MW132	17/04/2019	Normal	EB1910271	0.720	0.740	5.360	0.300	4.610	<0.02	0.100	0.270	1.350	0.190	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	9.970	14
MW132	27/03/2020	Normal	EB2009339	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW132	19/04/2021	Normal	EB2110957	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW132	12/04/2022	Normal	EB2211261-AB	<0.02	<0.02	0.090	<0.02	0.110	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.200	0.22
MW133	30/01/2014	Normal	EB1402209	-	-	-	-	1.550	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW133	23/05/2014	Normal	EB1412619	-	-	-	-	1.000	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW133	16/03/2016	Normal	EB1607670	-	-	-	-	0.920	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW133	16/03/2016	Interlab_D	494200	-	-	-	-	1.300	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-
MW133	16/03/2016	Field_D	EB1607670	-	-	-	-	0.800	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW133	12/07/2017	Normal	EB1714319	0.070	0.080	0.720	0.050	1.200	<0.02	<0.1	<0.02	0.090	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.920	2.25
MW133	12/07/2017	Interlab_D	AEC006/170719	0.057	-	0.640	-	0.850	<0.02	<0.05	<0.02	0.093	0.012	0.027	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW133	12/07/2017	Field_D	EB1714319	0.070	0.080	0.750	0.050	1.240	<0.02	<0.1	<0.02	0.090	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.990	2.32
MW134	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW134	27/05/2014	Interlab_D	420320	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-
MW134	27/05/2014	Field_D	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW134	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW134	10/03/2017	Normal	EB1704807	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW134	18/10/2018	Normal	EB1826390	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW134	16/04/2019	Normal	EB1910263	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW134	24/10/2019	Normal	EB1928478	<0.02	<0.02	0.080	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.120	0.12
MW134	16/01/2020	Normal	EB2001202	<0.02	<0.02	0.060	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.120	0.12
MW134	16/01/2020	Interlab_D	RN1311048	0.014	0.012	0.083	<0.01	0.073	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW134	16/01/2020	Field_D	EB2001202	<0.02	<0.02	0.060	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.110	0.11
MW134	26/03/2020	Normal	EB2008685	<0.02	<0.02	0.050	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.090	0.09
MW134	21/10/2020	Normal	EB2027842	<0.02	<0.02	0.050	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.090	0.09
MW134	19/04/2021	Normal	EB2112336	<0.02	<0.02	0.020	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW134	14/10/2021	Normal	EB2129553	0.020	0.020	0.130	<0.02	0.140	<0.02	<0.1	<0.02	0.020	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.270	0.34
MW134	14/04/2022	Normal	EB2211314	0.020	<0.02	0.120	<0.02	0.100	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.220	0.24
MW134	2/11/2022	Normal	EB2232886	<0.02	<0.02	0.05	<0.02	0.04	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.09
MW134	19/04/2023	Normal	EB2312082-BP	0.02	<0.02	0.05	<0.02	0.04	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.110
MW134	25/10/2023	Normal	EB2333532	<0.02	<0.02	0.08	<0.02	0.18	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.26	0.26
MW135	17/11/2014	Normal	EB1446505	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW135	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW135	1/06/2017	Normal	EB1711296	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW135	1/06/2017	Normal	EB1711987																														
MW135	5/07/2017	Normal	EB1713891	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW138	30/01/2014	Normal	EB1402209	-	-	-	-	0.080	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW138	26/05/2014	Normal	EB1412900	-	-	-	-	0.050	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW138	26/05/2016	Normal	EB1614020	-	-	-	-	0.060	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW138	12/07/2017	Normal	EB1714307	0.050	0.060	0.300	<0.02	0.080	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.380	0.54
MW138	11/04/2019	Normal	EB1909693	0.050	0.050	0.370	<0.02	0.080	<0.02	<0.1	<0.02	0.060	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.450	0.61
MW139	31/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW139	22/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW140	17/11/2014	Normal	EB1446505	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW140	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW140	4/02/2016	Interlab_D	488333	-	-	-	-	<0.04	-	-	-	-	-	<0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW140	4/02/2016	Field_D	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW140	1/06/2017	Normal	EB1711292	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW140	1/06/2017	Normal	EB1711987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW140	3/07/2017	Normal	EB1713892	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW141	28/08/2017	Normal	EB1717729	0.060	0.080	0.700	0.030	1.030	<0.02	<0.1	<0.02	0.140	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.730	2.08
MW141	12/09/2017	Normal	EB1718836	0.510	0.520	2.710	0.290	6.890	<0.02	<0.1	0.460	1.570	0.460	0.790	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.050	<0.05	<0.05	<0.05	9.600	14.3
MW142	28/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW142	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW142	23/03/2017	Normal	EB1705974	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW142	16/04/2019	Normal	EB1910266	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW143	1/07/2015	Normal	EB1522109	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW143	1/07/2015	Interlab_D	464084	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-

				PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW143	1/07/2015	Field_D	EB1522109	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW143	14/07/2016	Normal	EB1618081	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.02	-
MW144	28/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW144	28/10/2014	Interlab_D	437530	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-
MW144	28/10/2014	Field_D	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW144	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW144	23/03/2017	Normal	EB1705917	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW145	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW145	3/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW145	23/03/2017	Normal	EB1705999	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW146	28/10/2014	Normal	EB1445390	-	-	-	-	0.070	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW146	8/02/2016	Normal	EB1603686	-	-	-	-	0.220	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW147	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.200	<0.1	-	-	-
MW147	27/05/2016	Normal	EB1614014	-	-	-	-	<0.01	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW147	12/07/2017	Normal	EB1714306	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	18/04/2018	Normal	EB1809900	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	0.020	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.02
MW147	22/11/2018	Normal	EB1828774	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	17/04/2019	Normal	EB1910269	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	24/10/2019	Normal	EB1928470	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	27/03/2020	Normal	EB2009336	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	21/10/2020	Normal	EB2027841	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	13/04/2021	Normal	EB2110938	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	14/10/2021	Normal	EB2129559	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	0.030	<0.02	0.030	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.07
MW147	12/04/2022	Normal	EB2211320	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	17/04/2023	Normal	EB2312082-BT	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW147	25/10/2023	Normal	EB2334286	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW148	26/05/2014	Normal	EB1412900	-	-	-	-	0.040	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW148	8/02/2016	Normal	EB1603686	-	-	-	-	0.190	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW148	29/03/2017	Normal	EB1706413	-	-	0.490	-	0.310	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.800	-
MW149	21/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW149	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW149	23/03/2017	Normal	EB1705919	-	-	<0.02	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	<0.02	-
MW149	18/04/2018	Normal	EB1809898	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW149	17/04/2019	Normal	EB1910272	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW149	30/03/2020	Normal	EB2009345	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW149	19/04/2021	Normal	EB2110952	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW149	12/04/2022	Normal	EB2211278	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW149	20/04/2023	Normal	EB2312082-BQ	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW150	22/05/2014	Normal	EB1412441	-	-	-	-	2.530	-	-	-	-	-	0.230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW150	5/02/2016	Normal	EB1603065	0.490	-	2.520	-	3.270	<0.02	-	-	0.580	0.200	0.260	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	5.790	-
MW150	29/03/2017	Normal	EB1706406	-	-	2.460	-	3.900	-	-	-	-	-	0.270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	6.360	-
MW151	23/05/2014	Normal	EB1412619	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW151	18/10/2018	Normal	EB1826397	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	17/04/2019	Normal	EB1910267	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	24/10/2019	Normal	EB1928473	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	27/03/2020	Normal	EB2009335	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	21/10/2020	Normal	EB2027840	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	13/04/2021	Normal	EB2110934	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	14/10/2021	Normal	EB2129560	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	14/04/2022	Normal	EB2211304	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	27/10/2022	Normal	EB2232881	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW151	25/10/2023	Normal	EB2334299	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	0.02
MW151***	17/04/2023	Normal	EB2312082-BK	<0.02	<0.02	0.01	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	0.030
MW151***	23/08/2023	Normal	EB2312082-BK	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.020
MW152	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW153	17/11/2014	Normal	EB1446505	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW153	3/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW153	2/05/2017	Normal	EB1709199	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW154	28/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW154	27/05/2016	Normal	EB1614018	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW154	2/05/2017	Normal	EB1709214	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW155	29/10/2014	Normal	EB1445390	-	-	-	-	0.290	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW155	5/02/2016	Normal	EB1603065	-	-	-	-	1.340	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW155	1/06/2017	Normal	EB1711294	<0.02	<0.02	0.110	<0.02	0.290	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.400	0.4
MW155	1/06/2017	Normal	EB1711987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	6/07/2017	Normal	EB1713890	0.020	<0.02	0.130	<0.02	0.420	<0.02	<0.1	<0.02	0.030	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.550	0.61
MW156	30/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW156	23/05/2014	Normal	EB1412619	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW156	4/02/2016	Normal	EB1603065	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW156	23/03/2017	Normal	EB1705997	-	-	0.040	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	0.040	-
MW157	31/01/2014	Normal	EB1402209	-	-	-	-	9.490	-	-	-	-	-	0.220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW157	23/05/2014	Normal	EB1412619	-	-	-	-	7.210	-	-	-	-	-	0.240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW157	23/05/2014	Field_D	EB1412619	-	-	-	-	6.770	-	-	-	-	-	0.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW157	16/03/2016	Normal	EB1607673	0.570	-	4.540	-	7.060	<0.02	-	-	0.650	0.090	0.180	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	11.600	-
MW157	6/04/2017	Normal	EB1707195	-	-	4.770	-	9.720	-	-	-	-	-	0.300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	14.490	-
MW157	11/04/2019	Normal	EB1909709	0.590	0.560	3.900	0.350	5.710	<0.02	0.100	0.190	0.790	0.130	0.240	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	9.610	12.6
MW157	26/03/2020	Normal	EB2008690	0.650	0.600	3.880	0.440	7.400	<0.04	<0.2	0.200	0.870	0.140	0.280	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.09	<0.04	<0.09	<0.05	<0.05	<0.05	<0.05	11.300	14.5
MW157	28/04/2021	Normal	EB2111764	0.560	0.560	3.390	0.370	7.680	<0.02	0.100	0.190	0.860	0.140	0.250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	11.100	14.1
MW157	20/04/2022	Normal	EB2211294	0.580	0.670	3.820	0.460	6.540	<0.02	0.100	0.180	0.850	0.130	0.300	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	10.400	13.6
MW157	20/04/2023	Normal	EB2312082-BS	0.58	0.57	3.24	0.35	5.69	<0.02	0.1	0.22	0.85	0.14	0.24	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.93	12.000
MW158	27/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW159	29/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW159	23/05/2014	Normal	EB1412619	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW160	26/05/2014	Normal	EB1412900	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW160	8/05/2019	Normal	EB1911741	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW161	28/08/2017	Normal	EB1717729	0.030	0.030	0.150	<0.02	0.040	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.190	0.30
MW166	15/08/2017	Normal	EB1716714	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15/08/2017	Normal	EB1716714	0.080	0.110	0.390	<0.02	0.240	<0.02	<0.1	0.050	0.160	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.630	1.05
MW167	10/03/2017	Normal	EB1705014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.500	-
MW167	10/03/2017	Normal	EB1705014	1.150	1.200	5.670	0.660	14.800	<0.02	<0.1	0.370	2.200	0.370	1.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	20.470	27.5
MW167	22/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.990	-
MW167	26/04/2018	Normal	EB1810408	1.000	0.720	4.050	0.420	12.000	<0.02	0.300	0.390	1.680	0.280	0.510	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	16.000	21.4
MW167	21/06/2018	Normal	B683485-B	1.200	0.960	5.200	0.610	7.600	<0.05	<2.5	3.200	6.700	0.400	0.970	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	12.890	26.90
MW167	21/06/2018	Normal	B683485-A	0.880	0.700	4.000	0.570	7.400	<0.01	0.290	0.400	1.600	0.320	0.850	<0.01

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW167	25/03/2020	Normal	EB2008691	1.050	0.800	4.340	0.480	9.180	<0.09	<0.4	0.290	1.360	0.240	0.460	<0.09	<0.09	<0.09	<0.09	<0.09	<0.23	<0.09	<0.23	<0.09	<0.23	<0.23	<0.09	<0.23	<0.09	<0.09	<0.09	<0.09	13.500	18.2
MW167	19/10/2020	Normal	EB2027817	0.850	0.700	3.680	0.380	8.450	<0.02	0.280	0.400	1.740	0.280	0.520	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	12.100	17.3
MW167	17/04/2021	Normal	EB2110967	0.620	0.540	2.730	0.260	5.500	<0.02	0.220	0.290	1.220	0.220	0.360	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.230	12.0
MW167	11/10/2021	Normal	EB2129575	0.700	0.630	3.030	0.290	5.010	<0.05	0.300	0.300	1.430	0.240	0.430	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	8.040	12.4
MW167	17/04/2022	Normal	EB2211261-AA	0.550	0.460	2.480	0.220	4.340	<0.02	0.100	0.260	1.180	0.170	0.360	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	6.820	10.1
MW167	27/10/2022	Normal	EB2232878	0.46	0.42	2.32	0.2	5.85	<0.02	0.1	0.22	0.98	0.15	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	8.17	11
MW167	12/04/2023	Interlab_D	RN1390586	0.57	0.52	2.2	0.2	3.2	<0.01	0.21	0.24	0.99	0.16	0.31	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	5.400	8.600
MW167	12/04/2023	Normal	EB2311390	0.77	0.68	3.15	0.39	5.47	<0.02	0.2	0.32	1.38	0.23	0.46	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.62	13.000
MW167	12/04/2023	Field_D	EB2311393-AA	0.85	0.79	3.64	0.4	6.01	<0.02	0.3	0.35	1.44	0.26	0.46	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	9.65	14.500
MW167	24/10/2023	Normal	EB2333518	0.74	0.6	3.21	0.29	4.76	<0.02	0.2	0.33	0.99	0.18	0.41	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.97	11.7
MW168	29/01/2014	Normal	EB1402209	-	-	-	-	6.180	-	-	-	-	-	0.160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW168	29/01/2014	Interlab_D	407332	-	-	-	-	2.000	-	-	-	-	-	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.100	<0.1	-	-	-
MW168	29/01/2014	Field_D	EB1402209	-	-	-	-	5.450	-	-	-	-	-	0.130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW168	21/05/2014	Normal	EB1412441	-	-	-	-	1.660	-	-	-	-	-	0.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW168	29/10/2014	Normal	EB1445390	-	-	-	-	1.720	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW168	14/04/2021	Normal	EB2110564	0.300	0.270	1.540	0.110	1.730	<0.02	<0.1	0.130	0.540	0.070	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.270	4.83
MW168	11/10/2021	Normal	EB2129428	0.470	0.270	1.180	0.060	0.680	<0.02	<0.1	0.090	0.320	0.060	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.230	<0.05	<0.05	1.860	3.45
MW169	10/03/2017	Normal	EB1705014	0.100	0.100	0.600	<0.02	0.040	<0.02	<0.1	0.090	0.220	0.050	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.640	1.23
MW169	23/05/2019	Normal	657987	0.290	0.320	2.300	0.160	3.400	<0.01	0.380	1.000	1.400	0.710	0.860	0.160	0.020	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	1.100	0.120	<0.01	5.700	12.43
MW170	10/03/2017	Normal	EB1705014	0.710	0.800	4.050	0.210	3.340	<0.02	<0.1	0.230	1.340	0.240	0.430	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.390	11.4
MW170	23/05/2019	Normal	657987	0.470	0.450	3.000	0.110	3.500	<0.01	0.240	0.670	1.300	0.310	0.410	0.030	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.290	0.050	<0.01	6.500	11
MW171	29/01/2014	Normal	EB1402209	-	-	-	-	3.170	-	-	-	-	-	0.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW171	23/05/2014	Normal	EB1412619	-	-	-	-	1.640	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW171	10/03/2017	Normal	EB1705014	0.460	0.500	3.090	0.080	2.600	<0.02	<0.1	0.140	0.820	0.090	0.250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.690	8.03
MW171	10/03/2017	Interlab_D	AEC006_170316	0.340	-	1.900	-	1.700	<0.02	0.094	0.140	0.450	0.079	0.110	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	-	3.600	-
MW171	10/03/2017	Field_D	EB1705014	0.490	0.540	3.340	0.150	2.840	<0.02	<0.1	0.150	0.860	0.120	0.240	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.180	8.73
MW172	10/03/2017	Normal	EB1705014	0.270	0.310	2.180	0.160	4.920	<0.02	<0.1	1.400	1.490	1.150	1.140	0.270	0.220	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	5.780	3.960	<0.05	7.100	23.2
MW172	19/04/2018	Normal	EB1809957	0.520	0.500	3.130	0.160	3.150	<0.02	0.100	0.200	0.800	0.110	0.180	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.280	8.85
MW172	19/04/2018	Interlab_D	AEC006_180424	0.380	0.320	2.500	0.089	2.400	<0.01	0.120	0.170	0.640	0.082	0.120	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.05	<0.01	<0.01	0.039	<0.01	<0.01	-	-
MW172	19/04/2018	Field_D	EB1809957	0.570	0.490	3.040	0.130	3.050	<0.02	0.100	0.200	0.780	0.110	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.090	8.63
MW172	24/10/2018	Normal	EB1825962	1.170	1.180	5.500	0.700	25.000	<0.02	0.600	1.230	2.570	1.300	1.550	0.170	0.200	0.020	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.900	2.100	<0.05	30.500	44.2
MW172	5/04/2019	Normal	EB1908876	0.420	0.430	4.120	0.240	3.160	<0.02	0.500	1.560	1.830	0.820	0.820	0.190	0.030	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.160	0.120	<0.05	7.280	15.4
MW172	23/10/2019	Normal	EB1928436	0.420	0.400	2.180	0.160	5.340	<0.02	0.500	1.470	1.600	1.100	0.840	0.150	0.080	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.000	1.490	<0.05	7.520	16.7
MW172	30/03/2020	Normal	EB2009332	0.480	0.460	2.380	0.240	6.120	<0.02	0.900	2.210	1.830	1.650	1.150	0.240	0.150	0.020	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.650	2.480	<0.05	8.500	22.0
MW172	20/10/2020	Normal	EB2027817	0.330	0.340	2.050	0.150	3.960	<0.02	0.500	1.470	1.360	1.090	0.640	0.140	0.070	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.860	1.420	<0.05	6.010	14.4
MW172	14/04/2021	Normal	EB2110967	0.300	0.300	1.710	0.090	3.630	<0.02	0.600	1.830	1.180	1.420	0.590	0.140	0.080	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.890	1.530	<0.05	5.340	14.3
MW172	14/04/2021	Interlab_D	RN1312932	0.320	0.270	1.600	0.076	2.600	<0.01	0.540	1.600	1.100	1.300	0.560	0.120	0.046	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.05	<0.01	<0.01	0.820	0.940	<0.01	-	-
MW172	14/04/2021	Field_D	EB2110967	0.450	0.330	1.770	0.100	2.790	<0.02	0.560	2.020	1.370	1.540	0.720	0.130	0.070	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.860	0.860	<0.05	4.560	13.6
MW172	13/10/2021	Normal	EB2129575	0.220	0.230	1.200	0.090	2.500	<0.02	0.400	1.060	0.790	0.660	0.360	0.080	0.040	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.420	0.240	<0.05	3.700	8.29
MW172	17/04/2022	Normal	EB2211261-AA	1.030	0.910	4.610	0.560	22.100	<0.05	0.900	2.340	3.990	1.700	1.880	0.130	0.080	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	7.070	1.940	<0.05	26.700	49.2
MW172	26/10/2022	Normal	EB2232878	1.15	1.02	5.72	0.6	18.4	<0.1	1.3	3.61	4.28	2.03	1.800	0.16	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.25	<0.25	<0.25	<0.1	<0.1	<0.1	6.22	3.04	<0.1	24.1	49.3
MW172	12/04/2023	Normal	EB2311390	1.13	0.89	4.45	0.44	13.4	<0.02	1.1	4.06	3.07	1.72	1.410	0.16	0.07	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	3.3	0.99	<0.05	17.8	36.200
MW172	24/10/2023	Normal	EB2333518	0.94	0.87	4.55	0.39	14	<0.02	1.2	5.53	2.2	1.33	1.250	0.13	0.08	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	2.4	0.84	<0.05	18.6	35.7
MW173	10/03/2017	Normal	EB1705014	0.620	0.670	5.000	0.220	1.590	<0.02	<0.1	1.470	2.420	1.000	1.230	0.080	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	3.640	<0.05	<0.05	6.590	17.9
MW173	25/10/2018	Normal	EB1825962	0.320	0.330	2.980	0.190	2.890	<0.02	0.300	1.090	1.400	0.580	0.620	0.150	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.000	0.080	<0.05	5.870	11.9
MW173	5/04/2019	Normal	EB1908876	0.170	0.140	0.910	0.020	0.170	<0.02	<0.1	0.190	0.330	0.080	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.080	2.06
MW173	5/04/2019	Interlab_D	ES1910860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	5/04/2019	Interlab_D	RN1229258	0.150	0.110	0.820	0.018	0.160	<0.01	0.091	0.150	0.310	0.071	0.045	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.015	<0.01	<0.01	-	-
MW173	5/04/2019	Field_D	EB1908876	0.170	0.140	0.930	<0.02	0.170	<0.02	<0.1	0.190	0.320	0.080	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.100	2.05
MW173	23/05/2019	Normal	657987	0.130	0.120	0.970	0.030	0.140	<0.01	0.070	0.250	0.330	0.070	0.050	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	1.110	2.23
MW173	23/10/2019	Normal	EB1928436	0.390	0.410	4.050	0.230	2.980	<0.02	0.400	1.460	1.740	0.830	0.840	0.200	0.030	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.400	0.120	<0.05	7.030	15.1
MW173	26/03/2020	Normal	EB2009332	0.320	0.390	3.040	0.210	2.880	<0.03	0.200	1.180	1.440	0.660	0.700	0.140	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	<0.08	<0.03	<0.08	<0.05	1.010	<0.05	<0.05	5.920	12.2
MW173	26/03/2020	Interlab_D	RN1270680	0.350	0.320	2.600	0.160	2.300	<0.01	0.430	1.300	1.500	0.710	0.730	0.170	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	1.100	0.036	<0.01	-	-
MW173	26/03/2020	Field_D	EB2009332	0.350	0.430	3.200	0.210	2.970	<0.03	0.200	1.240	1.500	0.720	0.700	0.140	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	<0.08	<0.03	<0.08	<0.05	1.070	<0.05	<0.05	6.170	12.7
MW173	20/10/2020	Normal	EB2027817	0.290	0.290	2.670	0.180	2.270	<0.02	0.300	0.970	1.280	0.580	0.560	0.120	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.540	<0.05	<0.05	4.940	10.0
MW173	20/10/2020	Interlab_D	RN1292789	0.230	0.210	2.300	0.100	1.600	<0.01	0.310	0.990	0.960	0.540	0.510	0.099	0.012	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.340	<0.01	<0.01	-	-
MW173	20/10/2020	Field_D	EB2027817	0.320	0.310	2.900	0.170	1.850	<0.02	<0.35	<0.98	1.220	0.610	0.570	0.120	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.420	<0.05	<0.05	4.750	8.49
MW173	14/04/2021	Normal	EB2110967	0.220	0.250	2.320	0.140	2.010	<0.02	0.300	0.960	0.930	0.500	0.460	0.110	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.230	<0.05	<0.05	4.330	8.43
MW173	13/10/2021	Normal	EB2129575	0.270	0.280	2.540	0.210	2.460	<0.02	0.300	1.100	1.180	0.630	0.600	0.140	0.020	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.760	<0.05	<0.05	5.000	10.5
MW173	17/04/2022	Normal	EB2211261-AA	0.240	0.250	2.370	0.150	2.900	<0.02	0.300	0.930	1.050	0.470	0.560	0.140	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.660	<0.05	<0.05	5.270	10.0
MW173	24/10/2022	Normal	EB2232878	0.3	0.35	2.42	0.2	2.34	<0.02	0.4	1.07	1.47	0.55	0.490	0.12	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.43	<0.05	<0.05	4.76	10.1
MW173	12/04/2023	Normal	EB2311390	0.39	0.38	2.49	0.19	2.31	<0.02	0.4	1.19	1.52	0.61	0.510	0.12	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.27	<0.05	<0.05	4.8	10.400
MW173	24/10/2023	Interlab_D	RN1410219	0.39	0.3	1.8	0.094	2.1	<0.01	0.43	1.4	1.3	0.61	0.510	0.11	0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.036	<0.01	<0.01	3.900	12.100
MW173	24/10/2023	Normal	EB2333518	0.49	0.36	2.71	0.14	1.8	<0.02	0.4	1.32	1.28	0.59	0.590	0.12	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.15	<0.05	<0.05	4.51	9.95
MW173	24/10/2023	Field_D	EB2333518	0.41	0.4	2.94	0.16	1.94	<0.02	0.4	1.34	1.17	0.59	0.590	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.31	<0.05	<0.05	4.88	10.4
MW174	29/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW174	21/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW174	25/04/2018	Normal	EB1810408	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW174	25/04/2018	Interlab_D	AEC006_180501	<0.01	<0.01	0.014	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW174	25/04/2018	Field_D	EB1810408	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW174	20/10/2018	Normal	EB1825398	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW174	20/10/2018	Interlab_D	AEC006_181024	<0.01	<0.01	0.013	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW174	20/10/2018	Field_D	EB1825398	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW174	17/04/2019	Normal	EB1910095	0.020	<0.02	0.250	<0.02	0.340	<0.02	<0.1	<0.02	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.590	0.67
MW174	10/07/2019	Normal	EB1918202	0.031	0.024	0.096	0.005	0.076	<0.0005	0.016	0.130	0.101	0.027	0.014	0.001	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	0.171	0.523
MW174	22/10/2019	Normal	EB1928436	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids												PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW176	21/12/2017	Normal	EB1727394	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	10/01/2018	Normal	EB1801708	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	17/01/2018	Normal	EB1802116	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	24/01/2018	Normal	EB1802712	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	30/01/2018	Normal	EB1803286	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	6/02/2018	Normal	EB1803821	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	15/02/2018	Normal	EB1804328	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	21/02/2018	Normal	EB1804815	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	27/02/2018	Normal	EB1805780	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	6/03/2018	Normal	EB1806160	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	13/03/2018	Normal	EB1806857	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	20/03/2018	Normal	EB1807454	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW176	28/03/2018	Normal	EB1808121	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	3/04/2018	Normal	EB1808415	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	11/04/2018	Normal	EB1809152	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	18/04/2018	Normal	EB1809906	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	24/04/2018	Normal	EB1810407	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	1/05/2018	Normal	EB1810939	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	11/05/2018	Normal	EB1811569	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	18/05/2018	Normal	EB1812201	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	22/05/2018	Normal	EB1812713	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW176	20/06/2018	Normal	B682895-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW176	20/06/2018	Normal	B682895-A	<0.001	<0.001	0.001	<0.001	0.013	<0.001	<0.005	<0.001	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.014	0.018
MW176	18/07/2018	Normal	B692234-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW176	18/07/2018	Normal	B692234-A	<0.01	<0.01	<0.01	<0.01	0.020	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
MW176	18/07/2018	Field_D	B692234-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW176	18/07/2018	Field_D	B692234-A	<0.01	<0.01	<0.01	<0.01	0.020	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
MW176	11/07/2019	Normal	EB1918202	<0.0005	<0.0005	0.001	<0.0005	0.004	<0.0005	<0.002	0.001	<0.0005	<0.0005	0.002	0.001	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	0.0087
MW176	29/10/2019	Normal	EB1928975	<0.0005	<0.0005	0.001	<0.0005	0.005	<0.0005	<0.002	0.001	<0.0005	<0.0005	0.002	0.002	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.0121
MW176	4/03/2020	Normal	EB2006415	<0.0005	<0.0005	0.001	<0.0005	0.005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	0.002	0.001	0.001	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.0107
MW177	29/01/2014	Normal	EB1402209	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	-	-	-
MW177	21/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW177	29/10/2014	Normal	EB1445390	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW177	2/02/2016	Normal	EB1603057	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW177	2/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177	9/02/2016	Normal	EB1603672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177	4/05/2016	Normal	EB1611808	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW177	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177	4/05/2016	Normal	EB1611805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177	24/03/2017	Normal	EB1705969	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	16/11/2017	Normal	EB1724162	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	24/11/2017	Normal	EB1724901	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	30/11/2017	Normal	EB1725515	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW177	30/11/2017	Interlab_D	AEC006_171205	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW177	30/11/2017	Field_D	EB1725515	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW177	14/12/2017	Normal	EB1726841	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	14/12/2017	Interlab_D	AEC006_171219	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW177	14/12/2017	Field_D	EB1726841	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	20/12/2017	Normal	EB1727394	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	20/12/2017	Interlab_D	AEC006_180102	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW177	20/12/2017	Field_D	EB1727394	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	10/01/2018	Normal	EB1801708	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	10/01/2018	Interlab_D	AEC006_180116	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW177	10/01/2018	Field_D	EB1801708	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	16/01/2018	Normal	EB1802116	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	23/01/2018	Normal	EB1802712	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW177	6/02/2018	Normal	EB1803821	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	13/02/2018	Normal	EB1804328	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW177	21/02/2018	Normal	EB1804815	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	27/02/2018	Normal	EB1805780	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	6/03/2018	Normal	EB1806160	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	13/03/2018	Normal	EB1806857	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	20/03/2018	Normal	EB1807454	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	27/03/2018	Normal	EB1808121	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	3/04/2018	Normal	EB1808415	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	11/04/2018	Normal	EB1809152	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	18/04/2018	Normal	EB1809906	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW177	24/04/2018	Normal	EB1810407	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW177	1/05/2018	Normal	EB1810939	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	11/05/2018	Normal	EB1811569	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW177	18/05/2018	Normal	EB1812201	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	22/05/2018	Normal	EB1812713	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW177	21/06/2018	Normal	B682895-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW177	21/06/2018	Normal	B682895-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW177	21/06/2018	Normal	B682895-A	0.001	0.001	0.007	<0.001	0.014	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW178	14/02/2018	Normal	EB1804328	<0.02	<0.02	0.030	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW178	21/02/2018	Normal	EB1804815	<0.02	<0.02	0.020	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW178	27/02/2018	Normal	EB1805780	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	6/03/2018	Normal	EB1806160	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW178	13/03/2018	Normal	EB1806857	<0.02	<0.02	0.020	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW178	20/03/2018	Normal	EB1807454	<0.02	<0.02	0.020	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW178	27/03/2018	Normal	EB1808121	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW178	3/04/2018	Normal	EB1808415	<0.02	<0.02	0.030	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW178	11/04/2018	Normal	EB1809152	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	18/04/2018	Normal	EB1809906	<0.02	<0.02	0.030	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW178	18/04/2018	Interlab_D	AEC006_180424	<0.01	<0.01	0.015	<0.01	0.022	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.05	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW178	18/04/2018	Field_D	EB1809906	<0.02	<0.02	0.020	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW178	24/04/2018	Normal	EB1810407	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW178	24/04/2018	Interlab_D	AEC006_180501	<0.01	<0.01	0.014	<0.01	0.023	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW178	24/04/2018	Field_D	EB1810407	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW178	1/05/2018	Normal	EB1810939	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW178	1/05/2018	Interlab_D	AEC006_180515	<0.01	<0.01	0.013	<0.01	0.020	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW178	1/05/2018	Field_D	EB1810939	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW178	11/05/2018	Normal	EB1811569	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	18/05/2018	Normal	EB1812201	<0.02	<0.02	0.020	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW178	22/05/2018	Normal	EB1812713	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW178	21/06/2018	Normal	B682895-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05
MW178	21/06/2018	Normal	B682895-A	0.002	0.002	0.013	0.001	0.019	<0.001	<0.005	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	0.032	0.039
MW178	18/07/2018	Normal	B692234-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05
MW178	18/07/2018	Normal	B692234-A	<0.01	<0.01	0.010	<0.01	0.030	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.05	<0.05
MW178	19/10/2018	Normal	EB1825398	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	16/04/2019	Normal	EB1910095	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	11/07/2019	Normal	EB1918202	<0.0005	0.001	0.006	<0.0005	0.005	<0.0005	<0.002	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	0.011	0.0121
MW178	23/10/2019	Normal	EB1928436	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	29/10/2019	Normal	EB1928975	<0.0005	0.001	0.005	0.001	0.004	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.010	<0.001	<0.001	0.009	0.0208
MW178	4/03/2020	Normal	EB2006415	0.003	0.001	0.001	0.007	<0.0005	0.003	<0.002	0.001	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	<0.001	<0.001	0.010	0.0168
MW178	26/03/2020	Normal	EB2008691	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.130	<0.05	<0.05	0.020	0.15
MW178	19/10/2020	Normal	EB2027817	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	19/10/2020	Interlab_D	RN1292789	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW178	19/10/2020	Field_D	EB2027817	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	17/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	11/10/2021	Normal	EB2129575	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	17/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	2/11/2022	Normal	EB2232878	<0.04	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	13/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW178	24/10/2023	Normal	EB2333518	<0.04	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW179	5/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	5/11/2015	Normal	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	5/11/2015	Normal	EB1534037	-	-	-	-	1.360	-	-	-	-	-	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW179	10/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	10/02/2016	Normal	EB1603672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	10/02/2016	Normal	EB1603688	-	-	-	-	1.720	-	-	-	-	-	0.290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW179	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	4/05/2016	Normal	EB1611805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	4/05/2016	Normal	EB1611808	-	-	-	-	0.760	-	-	-	-	-	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW179	28/03/2017	Normal	EB1706327	0.620	0.510	2.980	0.220	2.420	<0.02	<0.1	0.200	1.280	0.220	0.370	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.400	8.82
MW179	20/10/2018	Normal	EB1825398	0.410	0.360	2.000	0.180	1.980	<0.02	0.200	0.200	1.050	0.180	0.260	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	3.980	6.82
MW179	20/10/2018	Interlab_D	AEC006_181024	0.460	0.360	2.100	0.150	2.600	<0.01	0.230	0.240	1.100	0.180	0.250	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.025	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW179	20/10/2018	Field_D	EB1825398	0.490	0.360	1.950	0.170	2.060	<0.02	0.200	0.200	1.040	0.180	0.270	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	4.010	6.92
MW179	6/11/2019	Normal	EB1929759	0.460	0.410	2.080	0.170	1.780	<0.02	<0.1	0.220	1.060	0.200	0.270	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.060	<0.05	<0.05	3.860	6.71
MW179	23/03/2020	Normal	EB2008693	0.600	0.480	2.490	0.210	2.790	<0.02	0.200	0.270	1.400	0.260	0.330	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.280	9.03
MW179	23/03/2020	Interlab_D	RN1271386	0.490	0.380	2.000	0.130	1.900	<0.01	0.230	0.250	1.000	0.190	0.270	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW179	23/03/2020	Field_D	EB2008693	0.380	0.350	1.960	0.180	2.030	<0.02	0.200	0.190	1.130	0.170	0.280	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	3.990	6.87
MW179	20/10/2020	Normal	EB2027817	0.520	0.430	2.300	0.230	3.010	<0.02	0.200	0.290	1.470	0.230	0.350	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.310	9.03
MW179	16/04/2021	Normal	EB2110967	0.570	0.510	2.600	0.260	3.050	<0.02	0.330	0.300	1.340	0.250	0.350	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.650	9.56
MW179	16/04/2021	Interlab_D	RN1312932	0.530	0.420	2.400	0.160	2.700	<0.01	0.220	0.250	1.300	0.190	0.280	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW179	16/04/2021	Field_D	EB2110967	0.580	0.520	2.670	0.250	3.210	<0.02	0.230	0.320	1.440	0.270	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.880	9.89
MW179	11/10/2021	Normal	EB2129575	0.620	0.560	2.760	0.310	3.890	<0.02	0.200	0.280	1.700	0.260	0.430	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.650	11.0
MW179	18/04/2022	Normal	EB2211261-AA	0.540	0.460	2.390	0.200	2.330	<0.02	0.200	0.270	1.370	0.230	0.410	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.06	<0.02	<0.05	<0.05	<0.02	<0.06	<0.05	<0.05	<0.05	4.720	8.40
MW179	3/11/2022	Normal	EB2232878	0.94	0.53	2.76	0.3	4.19	<0.02	0.2	0.36	1.82	0.32	0.620	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	<0.05	<0.05	6.95	12.1
MW179	13/04/2023	Normal	EB2311390	0.73	0.55	2.66	0.27	2.59	<0.02	0.3	0.31	1.58	0.3	0.540	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	5.25	9.900
MW179	24/10/2023	Normal	EB2333518	0.62	0.48	2.6	0.23	3.65	<0.02	0.2	0.33	1.24	0.24	0.470	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.25	10.1
MW180	5/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	5/11/2015	Normal	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	5/11/2015	Normal	EB1534037	-	-	-	-	2.710	-	-	-	-	-	0.520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW180	5/11/2015	Interlab_D	478996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	5/11/2015	Interlab_D	480012	-	-	-	-	4.700	-	-	-	-	-	0.540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-
MW180	5/11/2015	Field_D	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	5/11/2015	Field_D	EB1534037	-	-	-	-	2.760	-	-	-	-	-	0.470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW180	10/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	10/02/2016	Normal	EB1603672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	10/02/2016	Normal	EB1603688	-	-	-	-	3.820	-	-	-	-	-	0.740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW180	10/02/2016	Interlab_D	489124	-	-	-	-	<0.04	-	-	-	-	-	0.470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-
MW180	10/02/2016	Field_D	EB1603688	-	-	-	-	3.170	-	-	-	-	-	0.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW180	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	4/05/2016	Normal	EB1611805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	4/05/2016	Normal	EB1611808	-	-	-	-	1.820	-	-	-	-	-	0.110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW180	28/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.980	-
MW180	28/03/2017	Normal	EB1706327	1.300	1.110	5.910	0.490	4.010	<0.02	0.300	0.430	2.780	0.480	0.840	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	9.920	17.6
MW180	28/03/2017	Interlab_D	AEC006_170404	0.850	-	4.200	-	2.500	<0.02	0.430	0.420	2.500	0.430	0.530	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	6.700	-
MW180	28/03/2017	Field_D	EB1706327	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.500	-
MW180	28/03/2017	Field_D	EB1706327	1.460	0.930	6.660	0.470	3.810

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW185	5/05/2016	Normal	EB1611805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW185	5/05/2016	Normal	EB1611808	185.000	153.000	874.000	54.000	375.000	<0.1	42.400	34.800	198.000	18.300	39.500	<0.1	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.25	<0.1	<0.25	<0.1	1.560	<0.1	<0.1	1249.000	<0.1
MW185	5/05/2016	Interlab_D	499665	-	-	-	-	260.000	-	-	-	-	-	42.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.700	0.090	-	-	-
MW185	5/05/2016	Field_D	EB1611808	-	-	-	-	401.000	-	-	-	-	-	45.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.030	<0.1	-	-	-
MW185	28/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	690.000	-
MW185	28/03/2017	Normal	EB1706327	76.600	88.800	604.000	29.800	249.000	<0.02	28.600	28.600	99.200	16.800	42.500	0.050	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.910	<0.05	<0.05	853.000	1,260
MW186	10/03/2017	Normal	EB1705014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.410	-
MW186	10/03/2017	Normal	EB1705014	0.890	1.080	5.690	0.630	8.720	<0.02	<0.1	0.410	2.580	0.590	1.530	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.400	22.2
MW186	13/03/2017	Interlab_D	AECO06_170316	0.560	-	4.300	-	5.600	<0.02	0.270	0.350	1.400	0.290	0.590	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	-	-	9.900	-
MW186	13/03/2017	Field_D	EB1705014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.110	-
MW186	13/03/2017	Field_D	EB1705014	0.850	1.010	5.160	0.600	7.950	<0.02	<0.1	0.380	2.310	0.530	1.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	13.100	20.1
MW187	28/04/2017	Normal	EB1708629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW187	28/04/2017	Normal	EB1708629	0.160	0.140	1.280	0.050	0.900	<0.02	<0.1	<0.02	0.030	<0.02	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.180	2.62
MW187	28/04/2017	Interlab_D	AECO06_170502	0.130	-	1.200	-	0.970	<0.02	<0.05	0.069	0.260	0.036	0.060	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	2.170	-
MW187	28/04/2017	Field_D	EB1708629	0.160	0.130	1.310	0.050	0.890	<0.02	<0.1	<0.02	0.020	<0.02	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.200	2.61
MW187	15/11/2017	Normal	EB1724162	0.170	0.290	1.900	0.030	0.780	<0.02	<0.1	0.060	0.330	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.680	3.60
MW187	23/11/2017	Normal	EB1724901	0.180	0.170	1.260	0.060	1.030	<0.02	<0.1	0.080	0.240	0.040	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.290	3.13
MW187	23/11/2017	Interlab_D	AECO06_171128	0.120	0.120	1.100	0.034	0.890	<0.01	0.050	0.057	0.200	0.031	0.056	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	0.050	0.010	0.010	0.010	0.010	-	-
MW187	23/11/2017	Field_D	EB1724901	0.170	0.170	1.320	0.060	1.040	<0.02	<0.1	0.090	0.270	0.040	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.360	3.24
MW187	30/11/2017	Normal	EB1725515	0.260	0.220	1.320	0.080	1.510	<0.02	<0.1	0.120	0.440	0.130	0.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.830	4.21
MW187	13/12/2017	Normal	EB1726841	0.210	0.210	1.300	0.060	1.080	<0.02	<0.1	0.090	0.370	0.040	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.380	3.45
MW187	21/12/2017	Normal	EB1727394	0.160	0.190	1.320	0.050	1.010	<0.02	<0.1	0.050	0.290	0.040	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.330	3.18
MW187	10/01/2018	Normal	EB1801708	0.140	0.120	1.100	0.050	0.900	<0.02	<0.1	0.030	0.230	0.030	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.000	2.67
MW187	17/01/2018	Normal	EB1802116	0.090	0.110	0.410	0.040	0.740	<0.02	<0.1	0.060	0.120	<0.02	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.150	1.64
MW187	17/01/2018	Interlab_D	AECO06_180123	0.100	0.110	0.950	0.029	0.680	<0.01	<0.05	0.045	0.190	0.026	0.046	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	17/01/2018	Field_D	EB1802116	0.100	0.100	0.450	0.030	0.760	<0.02	<0.1	0.070	0.120	0.020	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.210	1.72
MW187	24/01/2018	Normal	EB1802712	0.120	0.130	0.760	0.040	0.710	<0.02	<0.1	0.070	0.200	0.030	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.470	2.13
MW187	24/01/2018	Interlab_D	AECO06_180131	0.029	0.036	0.420	0.026	0.960	<0.01	<0.05	<0.02	0.057	0.010	0.026	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	24/01/2018	Field_D	EB1802712	0.120	0.120	0.830	0.040	0.750	<0.02	<0.1	0.060	0.200	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.580	2.19
MW187	30/01/2018	Normal	EB1803286	0.140	0.140	1.110	0.040	0.810	<0.02	<0.1	0.070	0.210	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.920	2.61
MW187	7/02/2018	Normal	EB1803821	0.120	0.120	0.970	0.050	0.720	<0.02	<0.1	0.030	0.180	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.690	2.26
MW187	14/02/2018	Normal	EB1804328	0.110	0.130	0.900	0.050	0.810	<0.02	<0.1	<0.02	0.180	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.710	2.27
MW187	14/02/2018	Interlab_D	AECO06_180220	0.086	0.095	0.770	0.026	0.600	<0.01	<0.05	0.035	0.140	0.020	0.034	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	14/02/2018	Field_D	EB1804328	0.120	0.120	0.930	0.050	0.870	<0.02	<0.1	0.020	0.200	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.800	2.4
MW187	21/02/2018	Normal	EB1804815	0.120	0.140	1.100	0.040	0.790	<0.02	<0.1	0.050	0.200	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.890	2.51
MW187	21/02/2018	Interlab_D	AECO06_180223	0.083	0.100	0.770	0.024	0.560	<0.01	<0.05	0.036	0.160	0.020	0.036	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	21/02/2018	Field_D	EB1804815	0.110	0.140	1.080	0.040	0.780	<0.02	<0.1	0.060	0.200	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.860	2.48
MW187	27/02/2018	Normal	EB1805780	0.110	0.130	0.940	0.040	0.680	<0.02	<0.1	0.060	0.190	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.620	2.21
MW187	27/02/2018	Interlab_D	AECO06_180306	0.099	0.110	0.900	0.026	0.650	<0.01	0.073	0.039	0.150	0.020	0.037	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	27/02/2018	Field_D	EB1805780	0.110	0.130	0.920	0.040	0.690	<0.02	<0.1	0.060	0.200	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.610	2.21
MW187	6/03/2018	Normal	EB1806160	0.110	0.130	0.860	0.040	0.610	<0.02	<0.1	0.050	0.170	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.470	2.04
MW187	6/03/2018	Interlab_D	AECO06_180309	0.093	0.100	1.100	0.024	0.920	<0.01	<0.05	0.038	0.160	0.022	0.038	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	6/03/2018	Field_D	EB1806160	0.110	0.120	0.880	0.040	0.590	<0.02	<0.1	0.050	0.170	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.470	2.02
MW187	13/03/2018	Normal	EB1806857	0.070	0.070	1.040	0.040	0.730	<0.02	<0.1	0.040	0.140	<0.02	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.770	2.18
MW187	13/03/2018	Field_D	EB1806857	0.080	0.080	1.130	0.040	0.710	<0.02	<0.1	0.040	0.140	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.840	2.26
MW187	19/03/2018	Interlab_D	AECO06_180321	0.086	0.091	0.870	0.023	0.720	<0.01	<0.05	0.037	0.160	0.019	0.032	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	21/03/2018	Normal	EB1807454	0.110	0.120	0.890	0.040	0.660	<0.02	<0.1	0.040	0.140	0.040	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.550	2.08
MW187	21/03/2018	Interlab_D	AECO06_180405_1	0.084	0.091	0.790	0.024	0.560	<0.01	<0.05	0.034	0.140	0.019	0.034	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	21/03/2018	Field_D	EB1807454	0.100	0.100	0.800	0.040	0.720	<0.02	<0.1	0.050	0.140	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.520	2.02
MW187	27/03/2018	Normal	EB1808121	0.110	0.120	0.890	0.040	0.650	<0.02	<0.1	0.050	0.170	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.540	2.09
MW187	27/03/2018	Interlab_D	AECO06_180405_3	0.086	0.095	0.810	0.024	0.610	<0.01	<0.05	0.037	0.150	0.020	0.034	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	27/03/2018	Field_D	EB1808121	0.100	0.110	0.910	0.040	0.660	<0.02	<0.1	0.050	0.170	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.570	2.09
MW187	3/04/2018	Normal	EB1808415	0.080	0.060	0.880	0.030	0.580	<0.02	<0.1	0.030	0.120	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.460	1.85
MW187	3/04/2018	Interlab_D	AECO06_180406	0.095	0.100	0.810	0.023	0.550	<0.01	<0.05	0.038	0.160	0.020	0.033	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	3/04/2018	Field_D	EB1808415	0.070	0.070	0.900	0.040	0.550	<0.02	<0.1	0.040	0.110	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.450	1.85
MW187	11/04/2018	Normal	EB1809152	0.110	0.120	0.870	0.040	0.580	<0.02	<0.1	0.040	0.170	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.450	1.98
MW187	18/04/2018	Normal	EB1809906	0.110	0.120	0.910	0.020	0.660	<0.02	<0.1	0.040	0.170	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.570	2.09
MW187	24/04/2018	Normal	EB1810407	0.100	0.120	0.900	0.030	0.590	<0.02	<0.1	0.040	0.160	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.490	2.00
MW187	1/05/2018	Normal	EB1810939	0.100	0.100	0.840	0.030	0.610	<0.02	<0.1	0.040	0.160	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.450	1.95
MW187	11/05/2018	Normal	EB1811569	0.100	0.110	0.850	0.040	0.720	<0.02	<0.1	0.040	0.160	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.570	2.08
MW187	11/05/2018	Interlab_D	AECO06_180515_1	0.086	0.093	0.760	0.023	0.590	<0.01	<0.05	0.034	0.140	0.021	0.034	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	11/05/2018	Field_D	EB1811569	0.100	0.110	0.820	0.030	0.620	<0.02	<0.1	0.040	0.150	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.440	1.90
MW187	18/05/2018	Normal	EB1812201	0.100	0.120	0.890	0.040	0.680	<0.02	<0.1	0.040	0.160	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.570	2.08
MW187	18/05/2018	Field_D	EB1812201	0.090	0.110	0.890	0.040	0.710	<0.02	<0.1	0.040	0.160	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.600	2.10
MW187	18/05/2018	Field_D	EB1812201	0.100	0.100	0.850	0.030	0.680	<0.02	<0.1	0.040	0.170	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.530	2.03
MW187	23/05/2018	Normal	EB1812713	0.100	0.110	1.080	0.040	0.650	<0.02	<0.1	0.040	0.120	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.730	2.20
MW187	23/05/2018	Interlab_D	AECO06_180530	0.075	0.086	0.720	0.021	0.480	<0.01	<0.05	0.031	0.130	0.019	0.031	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW187	23/05/2018	Field_D	EB1812713	0.100	0.120	1.190	0.050	0.660	<0.02	<0.1	0.040	0.140	0.040	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.850	2.38
MW187	21/06/2018	Normal	B682895-B	0.100	0.100	1.100	<0.05	0.530	<0.05	<2.5	0.090	0.300	<0.05	0.070	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	1.630	2.36
MW187	21/06/2018	Normal	B682895-A	0.093	0.120	0.910	0.040	0.630	<0.001	0.009	0.037	0.180	0.022	0.067	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	1.500	2.1
MW187	21/06/2018	Normal	B682895-A	0.082	0.110	0.840	0.038	0.630	<0.001	<0.005	0.037	<0.001	0.021	0.064	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.500	1.8
MW187	21/06/2018	Normal	B682895-B	0.100	0.100	1.000	<0.05	0.500	<0.05	<2.5	0.080	0.300	<0.05	0.060	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	1.520	2.24
MW187	18/07/2018	Normal	B692234-B	0.080	0.200	0.710	<0.05	0.530	<0.05	<2.5	0.050	0.200	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	1.240	1.70
MW187	18/07/2018	Normal	B692234-A	0.090	0.130	0.710	0.040	0.480	<0.02	<0.05	0.030	0.150	0.020	0.040	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.200	1.7
MW187	25/10/2018	Normal	EB1825962	0.080	0.130	0.970	0.040	0.580	<0.02	<0.1	0.030	0.150	<0.02	0.040	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids												PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																		0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW188	6/02/2018	Normal	EB1803821	<0.02	<0.02	0.020	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW188	15/02/2018	Normal	EB1804328	<0.02	<0.02	0.030	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW188	21/02/2018	Normal	EB1804815	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW188	27/02/2018	Normal	EB1805780	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW188	6/03/2018	Normal	EB1806160	<0.02	<0.02	0.020	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW188	13/03/2018	Normal	EB1806857	<0.02	<0.02	0.030	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.070	0.07
MW188	20/03/2018	Normal	EB1807454	<0.02	<0.02	0.020	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.070	0.07
MW188	28/03/2018	Normal	EB1808121	<0.02	<0.02	0.030	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW188	3/04/2018	Normal	EB1808415	<0.02	<0.02	0.030	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.070	0.07
MW188	11/04/2018	Normal	EB1809152	<0.02	<0.02	0.020	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW188	18/04/2018	Normal	EB1809906	<0.02	<0.02	0.030	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW188	24/04/2018	Normal	EB1810407	<0.02	<0.02	0.030	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW188	1/05/2018	Normal	EB1810939	<0.02	<0.02	0.040	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW188	11/05/2018	Normal	EB1811569	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW188	18/05/2018	Normal	EB1812201	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW188	23/05/2018	Normal	EB1812713	<0.02	<0.02	0.030	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW188	20/06/2018	Normal	B682421-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW188	20/06/2018	Normal	B682421-A	0.003	0.003	0.022	0.001	0.035	<0.001	<0.005	<0.001	0.006	<0.001	0.006	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.057	0.080
MW188	18/07/2018	Normal	B692234-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW188	18/07/2018	Normal	B692234-A	<0.01	<0.01	0.020	<0.01	0.040	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	0.060	0.06
MW188	11/07/2019	Normal	EB1918202	<0.0005	0.003	0.012	0.001	0.029	<0.0005	<0.002	0.003	0.004	<0.0005	0.004	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.040	0.0552
MW188	29/10/2019	Normal	EB1928975	0.029	0.006	0.028	0.002	0.054	<0.0005	<0.002	0.005	0.010	0.001	0.007	0.001	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	0.050	<0.001	<0.001	0.082	0.193
MW188	4/03/2020	Normal	EB2006415	<0.0005	0.001	0.004	<0.0005	0.019	<0.0005	0.012	0.004	0.002	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	0.003	<0.001	<0.001	0.022	0.0446
MW189	28/04/2017	Normal	EB1708629	<0.02	<0.02	0.110	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.180	0.18
MW189	28/04/2017	Normal	EB1708629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW189	15/11/2017	Normal	EB1724162	<0.02	<0.02	0.040	0.190	<0.02	0.070	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.260	0.30
MW189	15/11/2017	Interlab_D	AEC006_171127_1	0.011	0.011	0.079	<0.01	0.061	<0.01	<0.05	<0.02	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW189	15/11/2017	Field_D	EB1724162	<0.02	0.030	0.210	<0.02	0.070	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.280	0.34
MW189	23/11/2017	Normal	EB1724901	<0.02	<0.02	0.100	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	1/12/2017	Normal	EB1725515	<0.02	<0.02	0.080	<0.02	0.090	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.19
MW189	13/12/2017	Normal	EB1726841	<0.02	0.020	0.110	<0.02	0.080	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.190	0.23
MW189	21/12/2017	Normal	EB1727394	<0.02	<0.02	0.110	<0.02	0.060	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.19
MW189	9/01/2018	Normal	EB1801708	<0.02	<0.02	0.100	<0.02	0.080	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.180	0.20
MW189	17/01/2018	Normal	EB1802116	<0.02	<0.02	0.030	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.090	0.09
MW189	24/01/2018	Normal	EB1802712	<0.02	<0.02	0.070	<0.02	0.050	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.120	0.14
MW189	31/01/2018	Normal	EB1803286	<0.02	<0.02	0.100	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.130	0.13
MW189	31/01/2018	Interlab_D	AEC006_180206_1	0.014	0.016	0.079	<0.01	0.057	<0.01	<0.05	<0.02	0.017	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
MW189	31/01/2018	Field_D	EB1803286	<0.02	<0.02	0.100	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.150	0.15
MW189	7/02/2018	Normal	EB1803821	<0.02	<0.02	0.100	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	14/02/2018	Normal	EB1804328	0.020	<0.02	0.080	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.19
MW189	21/02/2018	Normal	EB1804815	<0.02	<0.02	0.100	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	27/02/2018	Normal	EB1805780	<0.02	<0.02	0.090	<0.02	0.060	<0.02	<0.1	0.020	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.150	0.17
MW189	6/03/2018	Normal	EB1806160	<0.02	<0.02	0.090	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.140	0.14
MW189	13/03/2018	Normal	EB1806857	<0.02	<0.02	0.100	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.17
MW189	21/03/2018	Normal	EB1807454	0.020	0.020	0.090	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.21
MW189	27/03/2018	Normal	EB1808121	<0.02	<0.02	0.100	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.17
MW189	3/04/2018	Normal	EB1808415	<0.02	<0.02	0.100	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.150	0.15
MW189	12/04/2018	Normal	EB1809152	<0.02	<0.02	0.110	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.190	0.19
MW189	12/04/2018	Interlab_D	AEC006_180417_2	<0.01	0.012	0.076	<0.01	0.074	<0.01	<0.05	<0.02	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
MW189	12/04/2018	Field_D	EB1809152	<0.02	<0.02	0.100	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	18/04/2018	Normal	EB1809906	<0.02	<0.02	0.100	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	24/04/2018	Normal	EB1810407	<0.02	<0.02	0.090	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.180	0.18
MW189	2/05/2018	Normal	EB1810939	<0.02	<0.02	0.080	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.150	0.15
MW189	11/05/2018	Normal	EB1811569	<0.02	<0.02	0.090	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.150	0.15
MW189	18/05/2018	Normal	EB1812201	<0.02	<0.02	0.080	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	23/05/2018	Normal	EB1812713	<0.02	<0.02	0.110	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.190	0.19
MW189	19/06/2018	Normal	B682421-B	<0.05	<0.05	0.080	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	0.080	0.08
MW189	19/06/2018	Normal	B682421-A	0.012	0.014	0.078	0.003	0.064	<0.001	<0.005	0.004	0.020	0.002	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.140	0.20
MW189	17/07/2018	Normal	B692234-B	<0.05	<0.05	0.080	<0.05	0.090	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	0.170	0.17
MW189	17/07/2018	Normal	B692234-A	0.010	0.020	0.080	<0.01	0.100	<0.01	<0.05	<0.01	0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	0.180	0.23
MW189	20/10/2018	Normal	EB1825398	<0.02	<0.02	<0.02	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.070	0.07
MW189	17/04/2019	Normal	EB1910290	<0.02	<0.02	0.080	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	11/07/2019	Normal	EB1918202	0.007	0.012	0.071	0.003	0.065	<0.0005	<0.002	0.003	0.015	0.002	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	0.135	0.181
MW189	22/10/2019	Normal	EB1928436	<0.02	<0.02	0.090	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.150	0.15
MW189	29/10/2019	Normal	EB1928975	0.013	0.014	0.096	0.004	0.100	<0.0005	0.002	0.004	0.018	0.002	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	0.195	0.257
MW189	4/03/2020	Normal	EB2006415	0.011	0.014	0.077	0.005	0.088	<0.0005	<0.002	0.004	0.015	0.002	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	0.165	0.220
MW189	25/03/2020	Normal	EB2008691	<0.03	<0.03	0.080	<0.03	0.080	<0.03	<0.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	<0.08	<0.03	<0.08	<0.05	<0.05	<0.05	<0.05	0.160	0.16
MW189	20/10/2020	Normal	EB2027817	<0.02	<0.02	0.080	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.200	0.20
MW189	17/04/2021	Normal	EB2110967	<0.02	<0.02	0.080	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.200	0.20
MW189	13/10/2021	Normal	EB2129575	<0.02	<0.02	0.100	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.190	0.19
MW189	11/04/2022	Normal	EB2211261-AA	<0.02	<0.02	0.070	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW191	11/05/2018	Normal	EB1811569	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW191	18/05/2018	Normal	EB1812201	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW191	23/05/2018	Normal	EB1812713	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW191	20/06/2018	Normal	B682895-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW191	20/06/2018	Normal	B682895-A	<0.001	<0.001	0.002	<0.001	0.010	<0.001	<0.005	<0.001	<0.001	<0.001	0.003	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.012	0.017
MW191	17/07/2018	Normal	B692234-B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05
MW191	17/07/2018	Normal	B692234-A	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
MW191	11/07/2019	Normal	EB1918202	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.0022
MW191	29/10/2019	Normal	EB1928975	<0.0005	<0.0005	0.003	<0.0005	0.013	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.016	0.0210
MW191	30/10/2019	Field_D	EB1928975	<0.0005	<0.0005	0.002	<0.0005	0.015	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.016	0.0229
MW191	4/03/2020	Normal	EB2006415	<0.0005	<0.0005	0.002	<0.0005	0.014	<0.0005	<0.002	<0.0005	0.002	<0.0005	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.016	0.0258
MW193	23/05/2014	Normal	EB1412619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	23/05/2014	Normal	EB1412619	-	-	-	-	28.600	-	-	-	-	-	5.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW193	2/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	2/02/2016	Normal	EB1603057	5.020	-	25.700	-	23.800	<0.02	-	-	8.500	3.590	3.820	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	0.100	<0.1	-	49.500	-
MW193	5/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5/05/2016	Normal	EB1611808	-	-	-	-	26.500	-	-	-	-	-	4.480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW193	9/03/2017	Normal	EB1704721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	9/03/2017	Normal	EB1704721	8.680	6.420	17.300	3.080	25.400	<0.02	10.100	3.580	5.670	4.570	7.980	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.210	<0.05	<0.05	42.700	93
MW193	23/04/2018	Normal	EB1810408	3.880	4.430	22.300	2.270	36.300	<0.02	3.700	2.860	12.000	2.880	4.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.180	<0.05	<0.05	58.600	94.9
MW193	23/06/2018	Normal	B683754-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	23/06/2018	Normal	B683754-A	2.900	2.700	17.000	1.300	18.000	<0.01	2.800	1.800	7.300	2.000	4.000	0.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.028	<0.01	<0.01	34.820	59.89
MW193	23/06/2018	Normal	B683754-B	3.400	3.100	16.000	1.400	15.000	<0.05	5.600	4.900	12.000	2.400	3.400	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	31.150	67.68
MW193	23/06/2018	Field_D	B683754-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	23/06/2018	Field_D	B683754-A	2.500	2.300	18.000	1.100	19.000	<0.01	2.400	1.800	6.200	1.800	3.300	0.035	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.027	<0.01	<0.01	36.940	58.55
MW193	23/06/2018	Field_D	B683754-B	2.800	2.600	14.000	1.100	11.000	<0.05	5.300	4.300	11.000	2.200	3.200	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	25.250	58.10
MW193	20/10/2018	Normal	EB1825398	2.710	2.540	14.600	1.220	19.000	<0.02	2.800	1.710	6.660	1.730	2.960	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.100	<0.05	<0.05	33.600	56
MW193	8/04/2019	Normal	EB1909359	3.250	2.940	18.200	1.420	21.600	<0.02	3.500	2.040	8.160	2.130	3.630	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.180	<0.05	<0.05	39.800	67.1
MW193	11/07/2019	Normal	EB1918202	2.370	2.670	13.500	1.230	12.900	<0.0200	1.190	1.720	7.090	1.570	2.610	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0500	<0.0200	<0.0200	<0.050	<0.050	<0.0200	<0.050	<0.020	0.050	<0.020	<0.020	<0.020	26.400	46.9
MW193	11/07/2019	Normal	EB1918202	0.814	0.978	7.500	1.000	26.800	<0.0200	0.382	1.340	2.970	0.578	1.310	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0500	<0.0200	<0.0200	<0.050	<0.050	<0.0200	<0.050	<0.020	0.220	<0.020	<0.020	34.300	43.9
MW193	23/10/2019	Normal	EB1928436	3.480	3.940	21.300	1.490	21.800	<0.02	2.400	2.550	11.700	2.680	4.050	0.040	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.140	<0.05	<0.05	43.100	75.6
MW193	30/10/2019	Normal	EB1928975	4.280	4.640	18.400	2.430	21.400	<0.0100	1.020	3.080	9.830	2.520	5.060	0.048	<0.0100	<0.0100	<0.0100	<0.0100	<0.0250	<0.0100	<0.025	<0.025	<0.025	<0.0100	<0.025	<0.010	0.183	0.036	<0.010	39.800	72.9
MW193	30/10/2019	Normal	EB1928975	1.280	1.500	9.840	1.570	33.100	<0.0100	0.963	1.760	4.180	0.987	2.020	0.029	<0.0100	<0.0100	<0.0100	<0.0100	<0.0250	0.026	<0.025	<0.0100	<0.025	<0.025	<0.0100	<0.025	<0.010	0.256	0.014	<0.010	42.900	57.5
MW193	5/03/2020	Normal	EB2006415	2.480	2.490	12.800	1.530	12.600	<0.0016	0.920	1.570	7.040	1.650	2.780	0.022	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.004	<0.002	0.084	0.012	<0.002	25.400	46.0
MW193	25/03/2020	Normal	EB2008691	3.930	3.880	20.400	1.960	24.100	<0.16	1.400	2.460	9.980	2.740	3.950	<0.16	<0.16	<0.16	<0.16	<0.16	<0.40	<0.16	<0.40	<0.40	<0.16	<0.40	<0.40	<0.16	0.180	<0.16	<0.16	<0.16	44.500	75.0
MW193	20/10/2020	Normal	EB2027817	3.200	3.480	17.100	1.680	17.300	<0.07	3.900	2.310	9.390	2.420	3.540	<0.07	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	<0.18	<0.07	<0.18	<0.18	<0.07	0.130	<0.07	<0.07	<0.07	34.400	64.4
MW193	20/10/2020	Interlab_D	RN1292789	3.000	2.600	14.000	1.100	17.000	<0.01	3.000	1.900	6.800	1.800	2.700	0.038	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.130	0.037	<0.01	-	-
MW193	20/10/2020	Field_D	EB2027817	3.360	3.640	17.300	1.850	21.500	<0.04	1.900	2.300	9.800	2.460	3.740	0.050	<0.04	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	0.140	<0.05	<0.05	38.800	68.0
MW193	14/04/2021	Normal	EB2110967	3.910	4.230	17.000	1.840	25.900	<0.04	4.100	2.620	9.920	2.520	3.800	0.040	<0.04	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	0.140	<0.05	<0.05	42.900	76.0
MW193	11/10/2021	Normal	EB2129575	4.260	4.470	20.700	2.280	24.700	<0.02	4.200	2.470	11.300	2.750	4.160	0.050	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.140	<0.05	<0.05	45.400	81.5
MW193	17/04/2022	Normal	EB2211261-AA	2.940	2.770	14.800	1.350	16.700	<0.02	6.000	1.920	8.130	1.870	2.910	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.070	<0.05	<0.05	31.500	59.5
MW193	26/10/2022	Normal	EB2232878	2.21	2.11	11.5	0.92	12.8	<0.02	4.8	1.4	6.18	1.52	2.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	24.3	45.6
MW193	12/04/2023	Normal	EB2311390	2.62	2.64	12.9	1.08	11.2	<0.05	4.1	1.4	5.88	1.41	2.200	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	24.1	45.400
MW193	24/10/2023	Normal	EB2333518	1.82	1.83	10.9	0.75	8.65	<0.02	4.5	0.98	2.89	0.78	1.480	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.81	<0.05	<0.05	19.6	35.4
MW198	2/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW198	2/02/2016	Normal	EB1603057	3.810	-	23.200	-	37.700	<0.02	-	-	7.380	3.210	2.850	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	0.300	<0.1	-	60.900	-
MW198	5/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW198	5/05/2016	Normal	EB1611808	-	-	-	-	53.500	-	-	-	-	-	3.330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.300	<0.05	-	-	-
MW198	8/03/2017	Normal	EB1704721	3.320	2.660	14.200	2.250	48.300	<0.02	2.700	2.520	3.010	1.850	3.870	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.050	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.470	<0.05	<0.05	62.500	85.2
MW198	23/04/2018	Normal	EB1810408	1.540	1.760	13.800	1.730	53.000	<0.02	0.900	1.810	4.600	1.190	1.900	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.280	<0.05	<0.05	66.800	82.6
MW198	23/06/2018	Normal	B683754-A	1.300	1.300	8.900	1.200	29.000	<0.01	0.780	1.500	3.900	1.100	2.200	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	37.420	50.98
MW198	23/06/2018	Normal	B683754-B	1.400	1.500	11.000	1.200	23.000	<0.05	3.800	4.200	15.000	1.400	2.200	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	33.760	64.61
MW198	26/06/2018	Normal	B684401-B	0.610	0.560	3.800	0.400	2.100	<0.05	<2.5	0.680	1.400	0.200	0.300	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	5.840	10.02
MW198	26/06/2018	Normal	B684401-A	0.610	0.500	3.800	0.140	2.600	<0.01	0.098	0.260	0.750	0.091	0.210	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	6.460	9.21
MW198	21/10/2018	Normal	EB1825398	1.230	1.260	8.660	1.210	33.000	<0.02	0.700	1.360	3.410	0.930	1.640	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.240	<0.05	<0.05	41.700	53.7
MW198	10/04/2019	Normal	EB1909359	1.160	1.130	8.470	1.140	33.200	<0.02	0.800	1.370	3.550	0.970	1.740	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.230	<0.05	<0.05	41.700	53.8
MW198	22/10/2019	Normal	EB1928436	1.060	1.200	9.280	1.350	30.900	<0.02	1.400	1.440	3.580	0.960	1.670	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	0.020	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.220	<0.05	<0.05	40.200	53.1
MW198	5/03/2020	Normal	EB2006415	0.008	0.010	0.080	0.014	0.626	<0.0005	<0.002	0.013	0.028	0.008	0.014	0.001	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	0.706	0.806
MW198	25/03/2020	Normal	EB2008691	1.060	1.190	8.880	1.300	28.600	<0.16	<0.8	1.330	3.310	0.880	1.380	<0.16	<0.16	<0.16	<0.16	<0.16	<0.40	<0.16	<0.40	<0.40	<0.16	<0.40	<0.40	<0.16	0.190	<0.16	<0.16	<0.16	37.500	48.1
MW198	19/10/2020	Normal	EB2027817	0.600	0.660	4.510	0.600	14.000	<0.04	0.500	0.820	1.890	0.510	0.860	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.09	<0.04	<0.09	<0.05	0.100	<0.05	<0.05	18.500	25.0
MW198	14/04/2021	Normal	EB2110967	0.140	0.180	1.280	0.180	5.400	<0.02	0.100	0.190	0.430	0.140	0.210	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.680	8.25
MW198	11/10/2021	Normal	EB2129575	0.250	0.290	2.000	0.330	6.730	<0.02	0.100	0.250	0.670	0.200	0.310	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.730	11.1
MW198	17/04/2022	Normal	EB2211261-AA	0.230	0.210	1.560	0.240	5.990	<0.02	0.100	0.260	0.620	0.160	0.290	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.550	9.66
MW198	4/11/2022	Normal	EB2232878	0.65	0.78	5.49	0.82	19.6	<0.05	0.6	1.13	2.4	0.61	0.980	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	25.1	33.2
MW198	12/04/2023	Normal	EB2311390	0.12	0.14	0.99	0.17	4.31	<0.02	<0.1	0.12	0.24	0.08	0.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.3	6.300
MW198	24/10/2023	Normal	EB2333518	0.07	0.11	1.06	0.16	5.83	<0.02	<0.1	0.1	0.16	0.06	0.120	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.89	7.67
MW199	9/03/2017	Normal	EB1704721	0.950	0.660	3.650	0.260	4.640	<0.02	<0.1	0.280	0.880	0.170	0.310	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.200	<0.05	<0.05	8.290	12
MW201	13/03/2017	Normal	EB1705014	3.620	4.410	24.500	1.280	19.300	<0.02	0.300	1.010	5.950	0.750	2.510	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.440	<0.05	<0.05	43.800	64.1
MW201	18/04/2019	Normal	EB1910290	4.690	7.690	38.400	2.810	16.500	<0.02	0.200	1.770	8.590	1.200	2.260	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.360	<0.05	<0.05	54.900	84.5
MW201	10/07/2019	Normal	EB1918202	3.390	4.280	24.400	1.670	10.800	<0.0005	0.236	1.190	5.560	0.804	1.630	0.016	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.008	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.217	0.002	<0.001	35.200	54.2
MW201	22/10/2019	Normal	EB1928436	31.600	30.800	203.000	10.400	89.100	<0.02	4.200	8.390	37.900	6.070	11.100	0.090	<0.02	<0.02	<0.02	<0.02	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.780	<0.05	<0.05	325.000	498
MW201	22/10/2019	Interlab_D	RN1251384	28.000	25.000	200.000	7.900	100.000	<0.01	5.700	8.000	36.000	5.000	9.800	0.072	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.690	0.011	<0.01	-	-
MW201	22/10/2019	Field_D	EB1928436	30.200	30.000	207.000	11.800	99.200	<0.02	4.100	8.860	41.300	6.300	11.400	0.100	<0.02	<0.02	<0.02	<0.02	<0.05	0.020	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.800	<0.05	<0.05	306.000	451
MW201	30/10/2019	Normal	EB1928975	4.120	3.640	28.700	1.240	10.400	<0.0005	0.388	1.330	6.380	0.798	1.710	0.019	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.010	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.196	0.001	<0.001	39.100	58.9
MW201	5/03/2020	Normal	EB2006415	4.960	6.850	48.000	3.970	25.300	<0.0160	0.139	1.800	8.290	1.240	3.900	0.030	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.0160	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	<0.016	0.400	<0.016	<0.016	73.300	105
MW201	26/03/2020	Normal	EB2008691	6.300	7.960	52.800	3.490	28.900	<0.07	0.600	1.970	10.000	1.760	3.810	<0.07	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	<0.07	<0.18	<0.18	<0.07	<0.18	<0.07	0.480	<0.07	<0.07	81.700	118
MW201	23/10/2020	Normal	EB2027817	10.200

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW202	30/03/2020	Normal	EB2009332	12.400	17.700	143.000	27.500	884.000	<0.32	<1.6	4.740	20.200	3.720	16.200	0.580	<0.32	<0.32	<0.32	<0.32	<0.80	<0.32	<0.80	<0.32	<0.80	<0.80	<0.32	<0.80	<0.32	2.820	<0.32	<0.32	1030.000	1,130
MW202	23/10/2020	Normal	EB2027817	7.780	9.300	80.300	8.620	282.000	<0.40	<2.0	4.150	16.500	2.480	6.870	<0.40	<0.40	<0.40	<0.40	<0.40	<1.00	<0.40	<1.00	<0.40	<1.00	<1.00	<0.40	<1.00	<0.40	0.840	<0.40	<0.40	362.000	419
MW202	17/04/2021	Normal	EB2110967	9.420	10.200	85.200	7.070	301.000	<0.37	2.500	4.470	17.200	2.710	7.510	<0.37	<0.37	<0.37	<0.37	<0.37	<0.92	0.550	<0.92	<0.37	<0.92	<0.92	<0.37	<0.92	<0.37	0.950	<0.37	<0.37	386.000	449
MW202	12/10/2021	Normal	EB2129575	17.100	17.500	114.000	8.280	202.000	<0.24	3.600	6.600	31.100	4.260	9.330	0.260	<0.24	<0.24	<0.24	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	<0.60	<0.24	<0.60	<0.24	1.600	<0.24	<0.24	316.000	416
MW202	17/04/2022	Normal	EB2211261-AA	10.800	10.200	100.000	9.250	475.000	<2.50	<12.5	4.000	21.200	<2.50	7.750	<2.50	<2.50	<2.50	<2.50	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	<6.25	<2.50	<6.25	<2.50	<2.50	<2.50	<2.50	575.000	638
MW202	24/10/2022	Normal	EB2232878	6.74	6.85	56.5	5.01	165	<0.23	1.5	3	14.3	1.98	4.450	<0.23	<0.23	<0.23	<0.23	<0.23	<0.58	0.65	<0.58	<0.58	<0.58	<0.58	<0.23	<0.23	<0.23	0.46	<0.23	<0.23	222	266
MW202	12/04/2023	Normal	EB2311390	8.63	8.8	63	5.01	108	<0.24	1.9	3.21	13.7	1.99	4.220	<0.24	<0.24	<0.24	<0.24	<0.24	<0.6	0.5	<0.6	<0.24	<0.6	<0.6	<0.24	<0.6	<0.24	<0.24	<0.24	<0.24	171	219.000
MW202	25/10/2023	Normal	EB2333518	7.49	7.45	71.4	4.34	99.7	<0.1	2	3.65	12.1	1.88	5.950	<0.1	<0.1	<0.1	<0.1	<0.1	<0.26	<0.28	<0.26	<0.1	<0.26	<0.26	<0.1	<0.26	<0.1	<0.7	<0.1	<0.1	171	216
MW203	6/11/2017	Normal	EB1723185	0.620	0.720	3.640	0.080	0.610	<0.02	<0.1	0.160	0.860	0.130	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	4.250	6.98
MW203	31/01/2018	Normal	EB1803286	1.540	1.660	10.800	0.460	4.160	<0.02	0.300	0.470	2.220	0.350	0.550	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.000	22.5
MW203	21/06/2018	Normal	B683754-A	1.700	2.300	11.000	0.490	4.600	<0.01	0.350	0.590	2.600	0.370	0.920	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	15.390	24.79
MW203	21/06/2018	Normal	B683754-B	1.900	1.800	12.000	0.920	3.500	<0.05	<2.5	1.300	3.900	0.550	0.720	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	15.440	26.52
MW203	22/06/2018	Normal	B683485-B	1.500	1.500	9.800	0.530	2.400	<0.05	<2.5	0.950	3.700	0.400	0.910	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	12.250	21.73
MW203	22/06/2018	Normal	B683485-A	1.400	1.400	9.300	0.430	2.600	<0.01	0.310	0.480	2.100	0.340	0.630	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	11.930	19.02
MW203	18/04/2019	Normal	EB1910290	2.030	2.580	14.100	0.850	5.420	<0.02	0.100	0.780	3.750	0.570	0.930	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.060	<0.05	<0.05	19.500	31.2
MW203	10/07/2019	Normal	EB1918202	1.730	1.940	11.700	0.728	6.220	<0.0005	0.109	0.609	2.870	0.481	0.863	0.011	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.067	0.002	<0.001	17.900	27.3
MW203	23/10/2019	Normal	EB1928436	0.080	0.060	0.490	0.030	0.580	<0.02	<0.1	0.030	0.100	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.070	1.43
MW203	30/10/2019	Normal	EB1928975	1.970	1.840	11.100	0.619	4.810	<0.0005	0.203	0.660	3.390	0.446	0.871	0.011	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.064	<0.001	<0.001	15.900	26.0
MW203	5/03/2020	Normal	EB2006415	1.750	1.880	11.500	0.909	6.400	<0.0016	0.086	0.746	3.460	0.530	0.980	0.013	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.063	0.002	<0.002	17.900	28.3
MW203	25/03/2020	Normal	EB2008691	2.120	2.040	13.000	0.710	6.690	<0.06	<0.3	0.770	3.620	0.610	1.050	<0.06	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.16	<0.06	<0.16	<0.06	<0.06	<0.06	<0.06	19.700	30.6
MW203	25/03/2020	Interlab_D	RN1271386	1.900	1.700	11.000	0.470	5.100	<0.01	0.510	0.750	3.500	0.530	0.920	0.012	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.061	<0.01	<0.01	-	-
MW203	22/10/2020	Normal	EB2027817	1.590	1.820	11.200	0.620	4.710	<0.04	0.300	0.620	3.150	0.560	0.890	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	15.900	25.5
MW203	22/10/2020	Interlab_D	RN1292789	1.500	1.400	8.800	0.400	4.300	<0.01	0.400	0.620	2.200	0.440	0.740	0.015	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.047	<0.01	<0.01	-	-
MW203	22/10/2020	Field_D	EB2027817	1.670	1.870	11.500	0.690	5.810	<0.04	<0.2	0.680	3.340	0.560	0.960	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.09	<0.04	<0.09	<0.05	<0.05	<0.05	<0.05	17.300	27.1
MW203	15/04/2021	Normal	EB2110967	2.250	2.340	11.800	0.720	8.040	<0.18	<0.9	0.920	3.660	0.630	1.140	<0.18	<0.18	<0.18	<0.18	<0.18	<0.45	<0.18	<0.45	<0.18	<0.45	<0.45	<0.18	<0.45	<0.18	<0.18	<0.18	<0.18	19.800	31.5
MW203	12/10/2021	Normal	EB2129575	1.830	1.920	11.000	0.830	6.460	<0.02	0.400	0.650	3.460	0.580	1.000	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	17.500	28.2
MW203	17/04/2022	Normal	EB2211261-AA	0.720	0.790	6.490	0.070	0.790	<0.02	0.300	0.510	1.290	0.250	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	7.280	11.4
MW203	24/10/2022	Normal	EB2232878	0.6	0.67	5.66	0.29	0.9	<0.02	0.2	0.33	1.25	0.15	0.210	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	6.56	10.3
MW203	12/04/2023	Normal	EB2311390	1	1.28	10	0.16	0.85	<0.02	0.3	0.47	1.58	0.3	0.280	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	10.8	16.200
MW203	24/10/2023	Normal	EB2333518	1.11	1.2	7.94	0.13	0.62	<0.02	0.3	0.5	1.31	0.23	0.240	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.56	13.6
MW204	6/11/2017	Normal	EB1723185	190.000	184.000	791.000	22.700	174.000	<0.02	27.400	44.000	254.000	34.400	39.700	0.080	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	2.280	<0.05	<0.05	965.000	1,760
MW204	31/01/2018	Normal	EB1803286	235.000	182.000	997.000	21.800	304.000	<0.02	42.000	57.000	239.000	33.200	44.200	0.240	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	2.650	<0.05	<0.05	1300.000	2,160
MW204	23/10/2018	Normal	EB1825962	77.800	127.000	532.000	30.200	123.000	<0.50	17.400	30.700	110.000	13.300	20.600	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<1.25	<0.50	<1.25	<0.50	1.650	<0.50	<0.50	655.000	1,080
MW204	23/10/2018	Interlab_D	AEC006_181030_1	87.000	81.000	500.000	23.000	110.000	<0.01	17.000	22.000	110.000	13.000	21.000	0.065	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	0.012	1.300	<0.01	<0.01	-	-
MW204	23/10/2018	Field_D	EB1825962	109.000	127.000	648.000	31.300	157.000	<1.00	19.400	28.700	125.000	17.400	26.800	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	<1.00	<2.50	<1.00	<2.50	<2.50	<1.00	<2.50	<1.00	2.500	<1.00	<1.00	805.000	1,290
MW204	10/04/2019	Normal	EB1909359	72.400	63.200	378.000	16.300	130.000	<0.02	12.800	18.200	88.800	11.200	19.200	0.060	<0.02	<0.02	<0.02	<0.02	<0.05	0.020	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	4.800	<0.05	<0.05	508.000	815
MW204	10/07/2019	Normal	EB1918202	40.000	37.100	193.000	7.620	49.900	<0.0200	2.820	12.600	52.300	5.860	10.100	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0500	<0.0200	<0.050	<0.0200	<0.050	<0.050	<0.0200	<0.050	<0.020	0.630	<0.020	<0.020	243.000	412
MW204	22/10/2019	Normal	EB1928436	43.500	36.600	166.000	3.480	17.900	<0.02	15.000	11.700	53.200	6.740	7.340	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.330	<0.05	<0.05	184.000	362
MW204	22/10/2019	Interlab_D	RN1251384	41.000	33.000	180.000	2.500	23.000	<0.01	8.500	12.000	54.000	5.900	6.700	0.012	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.320	<0.01	<0.01	-	-
MW204	22/10/2019	Field_D	EB1928436	48.200	40.300	181.000	4.000	22.500	<0.02	12.500	13.400	59.700	6.820	7.480	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.340	<0.05	<0.05	204.000	396
MW204	30/10/2019	Normal	EB1928975	34.800	26.900	139.000	2.910	15.200	<0.0005	2.120	8.810	49.300	4.690	5.200	0.013	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.014	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.007	0.299	<0.001	<0.001	154.000	289
MW204	5/03/2020	Normal	EB2006415	10.800	17.300	102.000	5.900	15.900	<0.0160	0.261	3.270	16.100	2.710	5.560	<0.0160	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.0160	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	<0.016	0.256	<0.016	<0.016	118.000	180
MW204	25/03/2020	Normal	EB2008691	25.800	23.900	134.000	4.020	16.600	<0.32	<1.6	7.380	32.400	4.750	5.410	<0.32	<0.32	<0.32	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.79	<0.32	<0.79	<0.32	<0.32	<0.32	<0.32	151.000	254
MW204	22/10/2020	Normal	EB2027817	13.600	16.200	101.000	4.670	25.300	<0.20	1.500	4.670	21.800	3.930	6.120	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20	<0.50	<0.50	<0.20	<0.50	<0.20	0.220	<0.20	<0.20	126.000	199
MW204	17/04/2021	Normal	EB2110967	14.200	15.600	94.100	3.770	13.200	<0.38	3.000	4.340	20.500	3.430	5.900	<0.38	<0.38	<0.38	<0.38	<0.38	<0.95	<0.38	<0.95	<0.38	<0.95	<0.95	<0.38	<0.95	<0.38	<0.38	<0.38	<0.38	107.000	178
MW204	12/10/2021	Normal	EB2129575	16.900	24.300	140.000	7.070	17.000	<0.10	3.000	4.580	27.000	4.810	8.140	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	<0.10	0.440	<0.10	<0.10	157.000	253
MW204	20/04/2022	Normal	EB2211261-AA	22.000	25.600	175.000	6.150	25.200	<0.50	<2.5	6.850	30.600	5.350	10.600	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<1.25	<0.50	<1.25	<0.50	<0.50	<0.50	<0.50	200.000	307
MW204	24/10/2022	Normal	EB2232878	30.4	35	263	14.8	43.9	<0.43	6.2	9.24	55.6	8.63	21.600	<0.43	<0.43	<0.43	<0.43	<0.43	<1.08	<0.43	<1.08	<1.08	<1.08	<1.08	<0.43	<0.43	<0.43	0.56	<0.43	<0.43	307	489
MW204	12/04/2023	Interlab_D	RN1390586	52	59	330	21	71	<0.01	10	14	63	11	24.000	0.071	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	0.012	1.7	<0.01	<0.01	401.000	657.000
MW204	12/04/2023	Normal	EB2311390	77.2	86.7	549	40.3	118	<0.9	13.1	21.9	104	18.9	41.500	<0.9	<0.9	<0.9	<0.9	<0.9	<2.25	<0.9	<2.25	<0.9	<2.25	<2.25	<0.9	<2.25	<0.9	1.44	<0.9	<0.9	667	1070.000
MW204	12/04/2023	Field_D	EB2311393-AA	69	93.8	558	40.2	146	<0.83	15	19.8	98.4	18	39.700	<0.83	<0.83	<0.83	<0.83	<0.83	<2.08	<0.83	<2.08	<0.83	<2.08	<2.08	<0.83	<2.08	<0.83	2.08	<0.83	<0.83	704	1100.000
MW204	24/10/2023	Normal	EB2333518	134	142	925	58.2	575	<0.5	22.8	35.8	136	23.2	62.400	<0.5	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<1.25	<0.5	<1.25	<0.5	<3.75	<0.5	<0.5	1500	2110
MW205	6/11/2017	Normal	EB1723185	0.890	0.860	4.550	0.360	5.710	<0.02	<0.1	0.330	1.660	0.400	0.560	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	10.300	15.3
MW205	6/11/2017	Interlab_D	AECO03_171108	0.670		4.000		4.300	<0.02	0.220	0.300	1.200	0.240	0.390	0.013	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
MW205	6/11/2017	Field_D	EB1723185	0.860	0.840	4.470	0.360	5.690	<0.02	<0.1	0.330	1.660	0.390	0.560	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	10.200	15.2
MW205	22/06/2018	Normal	B683485-B	0.970	0.950	5.700	0.770	2.100	<0.05	<2.5	0.970	2.800	0.400	1.400	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	7.810	16.10
MW205	22/06/2018	Normal	B683485-A	0.810	0.790	5.400	0.440	4.000	<0.01	0.220	0.340	1.400	0.300	0.710	0.010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	9.380	14.44
MW205	27/06/2018	Normal	B685572-B	1.100	1.000	6.100	0.540	2.500	<0.05	<2.5	0.820	2.700	0.400	0.860	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	8.670	16.02
MW205	27/06/2018	Normal	B685572-A	0.800	0.770	5.900	0.260	3.300	<0.01	0.210	0.370	1.400	0.270	0.500	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	9.150	13.69
MW205	23/10/2018	Normal	EB1825962	1.560	1.400	8.750	0.520	5.770	<0.02	0.400	0.480	2.170	0.340	0.600	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.500	22.0
MW205	10/04/2019	Normal	EB1909359	1.890	1.660	9.660	0.440	4.740	<0.02	0.300	0.530	2.660	0.420	0.660	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.400	23
MW205	10/07/2019	Normal	EB1918202	1.570	1.770	9.080	0.513	4.660	<0.0005	0.088	0.449	2.250	0.371	0.584	0.010	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.010	0.002	<0.001	13.700	21.4
MW205	22/10/2019	Normal	EB1928436	1.900	2.060	11.400	0.450	3.880	<0.02	0.300	0.610	2.930	0.490	0.670	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.300	24.7
MW205	22/10/2019	Interlab_D	RN1251384	1.700	1.500	9.200	0.390	3.300	<0.01	0.470	0.570	2.300	0.400	0.570	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW205	22/10/2019	Field_D	EB1928436	1.720	2.070	11.400	0.420	3.940	<0.02	0.300	0.580	2.740	0.460	0.650	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.300	24.3
MW205	30/10/2019	Normal	EB1928975	2.200	1.910	9.730	0.488	3.670	<0.0005	0.237	0.803	3.110	0.392	0.640	0.011	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.010	<0.001	<0.001	13.400	23.2
MW205	5/03/2020	Normal	EB2006415	1.970	2.000	11.400	0.781	4.910	<0.0016	0.098	0.606	2.890	0.458	0.702	0.011	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.007	0.002	<0.002	16.300	25.8
MW205	26/03/2020	Normal	EB2009332	2.080	2.240	11.500	0.620	5.890	<0.03	0.200	0.640	3.020	0.510	0.760	<0.03	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	<0.08	<0.03	<0.08	<0.05	0.090	<0.05	<0.05	17.400	27.6
MW205	22/10/2020	Normal	EB2027817	1.410	1.500	8.790	0.520	5.720	<0.04	<0.2	0.510	2.380	0.400	0.620	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	14.500	21.8
MW205	17/04/2021	Normal	EB2110967	1.390	1.500	8.600	0.500	5.580	<0.02	0.330	0.530	2.280	0.430	0.650	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.200	21.8
MW205	12/10/2021	Normal	EB2129575	1.240	1.310	7.610	0.520	6.170	<0.02	0.300	0.420	2.250	0.370	0.600	0.020	<0.02	<0.02	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW207	17/04/2022	Normal	EB2211261-AA	<0.04	<0.02	0.140	<0.02	0.100	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.240	0.27
MW207	25/10/2022	Normal	EB2232878	0.11	0.12	0.93	0.06	0.42	<0.02	<0.1	0.06	0.18	0.05	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.35	2
MW207	12/04/2023	Normal	EB2311390	0.19	0.23	1.46	0.1	0.69	<0.02	<0.1	0.1	0.23	0.08	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.15	3.170
MW207	25/10/2023	Normal	EB2333518	0.18	0.18	1.42	0.06	0.84	<0.02	<0.1	0.09	0.16	0.06	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.26	3.07
MW208	8/03/2017	Normal	EB1704721	0.580	0.420	2.630	0.160	2.230	<0.02	<0.1	0.500	0.880	0.320	0.430	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.300	<0.05	<0.05	<0.05	<0.05	4.860	8.45
MW209	13/09/2018	Normal	B710405	0.550	0.490	3.500	0.410	4.700	<0.01	0.220	0.150	0.730	0.120	0.250	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8.170	11.09
MW209	13/09/2018	Normal	B710405-A	0.550	0.490	3.500	0.410	4.700	<0.01	0.220	0.150	0.730	0.120	0.250	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8.170	11.09
MW209	13/09/2018	Normal	B710405-B	0.530	0.400	3.100	0.300	4.100	<0.05	<2.5	0.400	1.100	0.100	0.200	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	7.160	10.29
MW209	13/09/2018	Interlab_D	ME308150	0.470	0.440	2.500	0.260	3.900	<0.002	0.210	0.140	0.750	0.100	0.220	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.008	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	0.004	<0.002	-	6.400	-
MW209	13/09/2018	Field_D	B710405	0.550	0.510	3.500	0.390	4.000	<0.01	0.210	0.150	0.720	0.120	0.230	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	7.480	10.36
MW209	13/09/2018	Field_D	B710405-A	0.550	0.510	3.500	0.390	4.000	<0.01	0.210	0.150	0.720	0.120	0.230	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	7.480	10.36
MW209	13/09/2018	Field_D	B710405-B	0.570	0.400	3.100	0.400	4.100	<0.05	<2.5	0.400	1.100	0.100	0.200	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	7.190	10.34
MW209	10/07/2019	Normal	EB1918202	0.397	0.332	1.220	0.082	1.110	<0.0005	0.041	0.158	0.547	0.098	0.112	0.001	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	2.330	4.10
MW209	30/10/2019	Normal	EB1928975	0.561	0.362	1.320	0.118	0.655	<0.0005	0.089	0.225	0.787	0.120	0.127	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	1.980	4.37
MW209	4/03/2020	Normal	EB2006415	0.603	0.470	1.260	0.076	0.772	<0.0016	0.019	0.282	0.718	0.122	0.127	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	<0.002	<0.002	<0.002	2.030	4.45
MW210	13/09/2018	Normal	B710405	0.240	0.210	1.300	0.098	0.890	<0.01	0.410	0.057	0.280	0.031	0.069	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.150	3.55
MW210	13/09/2018	Normal	B710405-A	0.240	0.210	1.300	0.098	0.890	<0.01	0.410	0.057	0.280	0.031	0.069	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	2.150	3.55
MW210	13/09/2018	Normal	B710405-B	0.200	0.200	1.000	0.100	0.820	<0.05	<2.5	0.100	0.400	<0.05	0.060	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	1.850	2.85
MW210	10/07/2019	Normal	EB1918202	0.243	0.271	1.620	0.184	2.420	<0.0005	0.054	0.063	0.295	0.045	0.102	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	4.040	5.30
MW210	30/10/2019	Normal	EB1928975	0.395	0.288	2.310	0.233	2.920	0.001	0.115	0.124	0.492	0.083	0.168	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	5.230	7.13
MW210	4/03/2020	Normal	EB2006415	0.622	0.610	3.260	0.405	4.760	<0.0016	0.054	0.145	0.625	0.105	0.232	0.002	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	0.003	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.022	<0.002	<0.002	8.020	10.8
MW211	13/09/2018	Normal	B710405	0.580	0.530	3.500	0.340	2.600	<0.01	0.380	0.140	0.700	0.099	0.210	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	6.100	9.07
MW211	13/09/2018	Normal	B710405-A	0.580	0.530	3.500	0.340	2.600	<0.01	0.380	0.140	0.700	0.099	0.210	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	6.100	9.07
MW211	13/09/2018	Normal	B710405-B	0.400	0.400	2.600	0.200	1.900	<0.05	<2.5	0.300	0.940	0.080	0.100	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	4.500	7.01
MW211	10/07/2019	Normal	EB1918202	0.223	0.217	1.240	0.126	1.370	<0.0005	0.039	0.057	0.261	0.046	0.094	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	<0.001	<0.001	2.610	3.67
MW211	30/10/2019	Normal	EB1928975	0.297	0.209	1.470	0.133	1.300	<0.0005	0.068	0.095	0.359	0.049	0.099	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	2.770	4.08
MW211	5/03/2020	Normal	EB2006415	0.022	0.009	0.037	0.006	0.191	<0.0005	<0.002	0.011	0.012	0.002	0.007	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.228	0.297
MW212	20/09/2018	Normal	B712066	0.180	0.180	1.300	0.130	2.900	<0.01	<0.05	0.060	0.300	0.030	0.110	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	4.200	5.2
MW212	10/07/2019	Normal	EB1918202	0.025	0.024	0.124	0.011	0.240	<0.0005	<0.002	0.012	0.032	0.007	0.012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.364	0.487
MW212	30/10/2019	Normal	EB1928975	0.035	0.030	0.094	0.005	0.152	<0.0005	0.006	0.014	0.041	0.006	0.007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.246	0.390
MW212	5/03/2020	Normal	EB2006415	0.041	0.035	0.088	0.004	0.111	<0.0005	<0.002	0.018	0.052	0.009	0.008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.199	0.365
MW213	13/09/2018	Normal	B710405-B	0.060	<0.05	0.200	<0.05	0.200	<0.05	<2.5	0.050	0.090	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	0.400	0.61
MW213	13/09/2018	Normal	B710405	0.057	0.041	0.200	0.015	0.210	<0.01	0.360	0.013	0.053	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	0.410	0.95
MW213	13/09/2018	Normal	B710405-A	0.057	0.041	0.200	0.015	0.210	<0.01	0.360	0.013	0.053	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	0.410	0.95
MW213	10/07/2019	Normal	EB1918202	0.230	0.164	0.573	0.041	0.482	<0.0005	0.072	0.073	0.275	0.039	0.042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	1.060	1.99
MW213	30/10/2019	Normal	EB1928975	0.329	0.185	0.781	0.081	0.484	<0.0005	0.074	0.123	0.382	0.047	0.051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	1.260	2.54
MW213	5/03/2020	Normal	EB2006415	0.349	0.267	0.989	0.087	0.874	<0.0016	0.014	0.100	0.326	0.045	0.061	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	<0.002	<0.002	<0.002	1.860	3.11
MW214	13/09/2018	Normal	B710405	0.320	0.280	1.700	0.100	1.200	<0.01	0.220	0.085	0.430	0.051	0.089	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	2.840	4.42
MW214	13/09/2018	Normal	B710405-A	0.320	0.280	1.700	0.100	1.200	<0.01	0.220	0.085	0.430	0.051	0.089	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	2.840	4.42
MW214	13/09/2018	Normal	B710405-B	0.200	0.200	1.300	0.090	0.960	<0.05	<2.5	0.200	0.520	<0.05	0.070	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	2.210	3.49
MW214	10/07/2019	Normal	EB1918202	<0.0005	<0.0005	0.001	<0.0005	0.004	<0.0005	<0.002	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.0067
MW214	30/10/2019	Normal	EB1928975	0.001	0.001	0.002	<0.0005	0.001	<0.0005	<0.002	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.0054
MW214	5/03/2020	Normal	EB2006415	0.001	0.001	0.002	<0.0005	0.003	<0.0005	<0.002	0.002	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	<0.001	<0.001	0.005	0.0124
MW215	13/09/2018	Normal	B710405	0.610	0.590	3.300	0.260	3.300	<0.01	0.180	0.240	1.200	0.190	0.340	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	6.630	10.30
MW215	13/09/2018	Normal	B710405-A	0.610	0.590	3.300	0.260	3.300	<0.01	0.180	0.240	1.200	0.190	0.340	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	6.630	10.30
MW215	13/09/2018	Normal	B710405-B	0.590	0.400	2.800	0.200	2.800	<0.05	<2.5	0.500	1.400	0.200	0.300	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	5.630	9.22
MW215	10/07/2019	Normal	EB1918202	0.751	0.874	4.730	0.086	0.786	<0.0005	0.053	0.184	1.040	0.133	0.145	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	<0.001	<0.001	5.520	8.78
MW215	30/10/2019	Normal	EB1928975	1.210	1.040	4.910	0.135	1.240	<0.0005	0.093	0.262	1.640	0.194	0.223	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.003	<0.001	<0.001	6.150	11.0
MW215	5/03/2020	Normal	EB2006415	0.352	0.416	2.480	0.160	2.180	<0.0016	0.021	0.145	0.670	0.109	0.198	0.002	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.007	<0.002	<0.002	4.660	6.74
MW216	25/01/2019	Normal	EB1902057	0.160	0.160	0.830	0.060	1.000	<0.02	<0.1	0.270	0.560	0.230	0.260	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.050	<0.05	<0.05	1.830	3.58
MW216	25/01/2019	Field_D	EB1902057	0.160	0.150	0.820	0.060	0.990	<0.02	<0.1	0.270	0.540	0.230	0.250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.810	3.47
MW216	26/01/2019	Interlab_D	637811	0.180	0.190	0.760	0.050	1.400	<0.01	0.140	0.280	0.560	0.240	0.250	0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	2.160	4.07
MW216	11/07/2019	Normal	EB1918202	0.183	0.176	0.838	0.138	1.420	0.001	0.291	1.060	0.939	0.360	0.426	0.067	0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.100	0.018	<0.001	2.260	6.02
MW216	31/10/2019	Normal	EB1928975	0.374	0.291	1.510	0.138	2.980	<0.0005	0.372	1.190	1.820	0.614	0.817	0.144	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.003	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.192	0.044	<0.001	4.490	10.5
MW216	5/03/2020	Normal	EB2006415	0.430	0.394	1.900	0.202	3.460	<0.0016	0.148	1.650	2.010	0.881	1.130	0.148	0.004	<0.0016	<0.0016	<0.0016	<0.0040	0.003	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.269	0.060	<0.002	5.360	12.7
MW217	8/03/2017	Normal	EB1704721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.400	-
MW217	8/03/2017	Normal	EB1704721	1.320	0.760	3.500	0.180	6.860	<0.02	<0.1	0.300	0.990	0.150	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.080	<0.05	<0.05	10.360	14.3
MW217	26/06/2018	Normal	B684401-B	0.670	0.610	4.100	0.300	2.400	<0.05	<2.5	0.560	1.700	0.200	0.300	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	6.520	10.89
MW217	26/06/2018	Normal	B684401-A	0.610	0.500	3.700	0.140	2.700	<0.01	0.110	0.270	0.780	0.110	0.230	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	6.390	9.25
MW217	11/07/2019	Normal	EB1918202	0.448	0.450	3.330	0.121	2.240	<0.0005	0.039	0.176	0.631	0.091	0.117	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.072	<0.001	<0.001	5.570	7.72
MW217	30/10/2019	Normal	EB1928975	0.625	0.459	3.450	0.152	2.290	0.001	0.052	0.197	0.744	0.103	0.146	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.088	<0.001	<0.001	5.740	8.31
MW217	5/03/2020	Normal	EB2006415	0.575	0.593	3.330	0.164	2.960	<0.0016	0.021	0.194	0.615	0.079	0.102	0.002	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.029	<0.002	<0.002	6.290	8.66
MW218	9/03/2017	Normal	EB1704721	1.380	0.960	5.310	0.170	2.970	<0.02	<0.1	0.310	1.170	0.210	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.280	12.7
MW221	7/03/2017	Normal	EB1704721	0.840	0.590	2.760	0.200	4.860	<0.02	<0.1	0.500	1.380	0.490	0.820	0.040	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.050	<0.05	<0.05	7.620	12.5
MW221	19/04/2018	Normal	EB1809957	0.460	0.410	2.350	0.200	3.510	<0.02	0.100	0.250	0.940	0.240	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.860	8.86
MW221	20/10/2018	Normal	EB1825398	0.360	0.340	1.880	0.150	2.070	<0.02	0.200	0.290	0.860	0.270	0.390	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.950	6.81
MW221	8/04/2019	Normal	EB1909359	0.360	0.350	2.040	0.140	2.200	<0.02	<0.1	0.290	0.930	0.270	0.410	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.240	6.99
MW221	11/07/2019	Normal	EB1918202	0.257	0.267	1.480	0.117	1.600	<0.0005	0.045	0.197	0.617	0.177	0.248	0.008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.009	<0.001	<0.001	3.080	5.02
MW221	23/10/2019	Normal	EB1928436	0.320	0.350	2.070	0.140	1.650	<0.02	0.100	0.230	0.860	0.220	0.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.720	6.26
MW221	30/10/2019	Normal	EB1928975	0.347	0.280	1.740	0.129	1.720	<0.0005	0.068	0.213	0.855	0.180	0.316	0.011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.008	<0.001	<0.001	3.460

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW222	17/04/2022	Normal	EB2211261-AA	0.740	0.700	5.340	0.600	15.900	<0.05	1.000	2.490	3.800	1.760	3.140	0.750	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	1.350	0.140	<0.05	21.200	37.7
MW222	17/04/2022	Interlab_D	RN1350926	0.730	0.710	4.600	0.700	12.000	<0.01	1.200	1.600	3.700	1.600	3.000	1.200	0.039	<0.01	<0.01	<0.02	<0.02	0.013	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	1.800	0.270	<0.01	-	-
MW222	17/04/2022	Field_D	EB2211261-AA	0.700	0.850	5.490	0.930	17.700	<0.02	1.100	2.140	3.670	2.020	3.100	0.760	0.030	<0.02	<0.02	<0.02	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.680	0.210	<0.05	23.200	40.4
MW222	26/10/2022	Normal	EB2232878	0.57	0.47	3.71	0.47	13.7	<0.02	0.6	1.32	2.17	1.02	1.700	0.48	0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	0.66	0.2	<0.05	17.4	27.1
MW222	12/04/2023	Normal	EB2311390	0.47	0.55	3.77	0.54	15.2	<0.02	0.5	1.24	1.78	0.87	1.360	0.47	0.04	<0.02	<0.02	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.57	0.22	<0.05	19	27.600
MW222	25/10/2023	Normal	EB2333518	0.68	0.57	4.31	0.46	17.3	<0.02	0.7	1.6	1.83	1	1.720	0.52	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.59	0.17	<0.05	21.6	31.5
MW223	7/03/2017	Normal	EB1704721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.800	
MW223	7/03/2017	Normal	EB1704721	1.000	0.980	5.980	0.980	25.800	<0.02	2.400	17.600	6.410	6.580	10.100	4.400	0.070	<0.02	<0.02	<0.02	<0.05	0.100	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	11.500	0.880	<0.05	31.780	94.8
MW223	29/09/2017	Normal	EB1720333	0.710	0.790	5.270	0.540	11.300	<0.02	0.700	16.000	11.700	9.730	9.800	1.750	0.050	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	6.250	0.490	<0.05	16.600	75.1
MW223	29/09/2017	Field_D	EB1720333	0.690	0.800	4.970	0.500	10.300	<0.02	0.500	14.800	11.600	10.800	9.800	1.670	0.040	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	6.350	0.440	<0.05	15.300	73.3
MW223	22/10/2018	Normal	EB1825962	0.940	0.820	5.860	0.540	8.020	<0.02	4.100	19.200	11.400	5.740	8.240	1.660	0.040	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	6.100	0.380	<0.05	13.900	73.0
MW223	8/04/2019	Normal	EB1909359	1.000	0.970	7.160	0.600	20.700	<0.02	4.600	21.700	13.000	6.800	9.100	2.130	0.060	<0.02	<0.02	<0.02	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	22.800	0.710	<0.05	27.900	111
MW223	11/07/2019	Normal	EB1918202	0.761	0.925	5.870	0.455	6.860	0.003	1.220	16.300	8.730	4.160	6.070	1.350	0.035	<0.0005	<0.0005	<0.0005	<0.0005	0.023	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.002	4.060	0.378	<0.001	12.700	57.2
MW223	23/10/2019	Normal	EB1928436	0.970	1.110	8.900	0.720	18.500	<0.02	3.700	22.700	11.500	6.440	8.500	2.510	0.100	<0.02	<0.02	<0.02	<0.05	0.060	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	4.560	1.230	<0.05	27.400	91.5
MW223	31/10/2019	Normal	EB1928975	0.965	1.070	7.050	0.591	7.460	0.019	1.520	19.400	10.700	4.600	6.450	1.490	0.040	<0.0005	<0.0005	<0.0005	<0.0005	0.027	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.005	3.920	0.296	<0.001	14.500	65.6
MW223	5/03/2020	Normal	EB2006415	1.040	1.100	8.590	0.900	9.900	<0.0016	0.829	22.800	11.800	5.940	7.950	1.750	0.030	<0.0016	<0.0016	<0.0016	<0.0040	0.033	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	0.002	3.730	0.418	<0.002	18.500	76.8
MW223	5/03/2020	Field_D	EB2006415	1.230	0.913	6.170	0.677	7.690	<0.0016	0.926	18.700	8.800	5.440	6.030	1.480	0.045	<0.0016	<0.0016	<0.0016	<0.0040	0.031	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	0.002	4.250	0.450	<0.002	13.900	62.8
MW223	25/03/2020	Normal	EB2008691	1.230	1.330	9.960	0.940	13.200	<0.06	2.600	22.800	11.800	6.590	8.570	2.130	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.16	<0.06	<0.16	<0.06	5.560	0.470	<0.06	23.200	87.2
MW223	19/10/2020	Normal	EB2027817	1.020	1.110	8.660	0.800	15.000	<0.04	5.800	28.700	13.300	7.690	8.440	2.140	0.060	<0.04	<0.04	<0.04	<0.10	0.050	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	5.000	0.610	<0.05	23.700	98.4
MW223	14/04/2021	Normal	EB2110967	1.220	1.290	8.920	0.970	18.600	<0.07	6.400	37.400	15.100	10.200	9.720	2.240	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	<0.07	<0.18	<0.18	<0.07	<0.18	<0.07	6.650	0.740	<0.07	27.500	119
MW223	12/10/2021	Normal	EB2129575	0.980	1.110	8.890	0.860	14.600	<0.02	8.900	40.800	18.700	13.100	11.000	2.230	0.050	<0.02	<0.02	<0.02	<0.06	0.040	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	8.980	0.580	<0.05	23.500	131
MW223	13/04/2022	Normal	EB2211261-AA	0.770	0.780	6.400	0.620	14.800	<0.05	6.100	30.900	14.200	16.400	10.200	3.040	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	6.560	0.220	<0.05	21.200	111
MW223	13/04/2022	Interlab_D	RN1350926	0.710	0.780	5.400	0.820	15.000	<0.01	4.700	22.000	14.000	15.000	5.100	3.200	0.013	<0.01	<0.01	<0.02	<0.02	0.024	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	5.700	0.410	<0.01	-	-
MW223	13/04/2022	Field_D	EB2211261-AA	0.680	1.020	7.260	1.010	18.000	<0.02	6.200	23.300	12.700	14.300	10.000	2.970	0.030	<0.02	<0.02	<0.02	<0.05	0.040	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	6.470	0.400	<0.05	25.300	104
MW223	26/10/2022	Normal	EB2232878	0.5	0.61	5.95	0.74	14.6	<0.05	4.7	18.8	14.5	11.6	8.860	2.3	0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	5.92	0.46	<0.05	20.6	89.6
MW223	12/04/2023	Normal	EB2311390	0.41	0.43	3.29	0.77	13.7	<0.02	5.3	18.5	10.8	9.01	5.180	1.98	0.06	<0.02	<0.02	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	3.81	0.68	<0.05	17	74.000
MW223	25/10/2023	Interlab_D	RN1410219	0.61	0.55	2.6	0.18	7.6	<0.01	4.7	22	10	8	3.200	0.22	0.063	<0.01	<0.01	<0.02	<0.02	0.015	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	2.1	0.48	<0.01	10.200	62.318
MW223	25/10/2023	Normal	EB2333518	0.75	0.52	3.55	0.21	10.2	<0.02	6.9	32.5	12.8	9.62	5.200	0.24	0.07	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<2.6	0.58	<0.05	13.8	83.1
MW223	25/10/2023	Field_D	EB2333518	0.79	0.76	4.34	0.3	10.8	<0.02	7.7	30.6	14.6	9.84	6.360	0.28	0.07	<0.02	<0.02	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	3.05	0.62	<0.05	15.1	90.2
MW224	7/03/2017	Normal	EB1704721	1.300	0.900	4.410	0.170	3.420	<0.02	1.600	3.760	2.240	1.020	1.480	0.870	0.070	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.600	0.130	<0.05	7.830	23
MW224	23/05/2019	Normal	657987	0.480	0.670	3.100	0.120	2.700	<0.01	1.000	2.900	1.900	0.900	1.000	0.830	0.070	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.860	0.180	<0.01	5.800	16.83
MW225	9/03/2017	Normal	EB1704721	0.920	0.630	1.800	<0.02	<0.01	<0.02	<0.1	0.100	0.450	0.070	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.800	4
MW225	9/03/2017	Interlab_D	AECO06_170314_3	0.340	-	1.200	-	0.014	<0.02	<0.05	0.067	0.240	0.042	0.026	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	-	1.214	-
MW225	9/03/2017	Field_D	EB1704721	0.910	0.640	1.990	<0.02	0.020	<0.02	<0.1	0.120	0.490	0.080	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.010	4.32
MW226	8/03/2017	Normal	EB1704721	0.300	0.180	0.830	0.040	0.310	<0.02	<0.1	0.050	0.160	0.030	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.140	1.95
MW226	26/06/2018	Normal	B684675-A	0.310	0.270	0.780	0.040	0.380	<0.01	<0.05	0.033	0.170	0.027	0.056	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	1.160	2.07
MW226	26/06/2018	Normal	B684675-B	0.300	0.300	0.930	<0.05	0.300	<0.05	<2.5	0.080	0.200	<0.05	0.050	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	1.240	2.25
MW226	11/07/2019	Normal	EB1918202	0.125	0.132	0.864	0.128	2.890	<0.0005	0.007	0.042	0.193	0.026	0.059	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.003	<0.001	<0.001	3.750	4.47
MW226	11/07/2019	Field_D	EB1918202	0.058	0.067	0.273	0.007	0.025	<0.0005	<0.002	0.015	0.061	0.007	0.008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	<0.001	<0.001	0.298	0.521
MW226	30/10/2019	Normal	EB1928975	0.058	0.036	0.223	0.005	0.022	<0.0005	0.004	0.011	0.044	0.005	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.245	0.414
MW226	5/03/2020	Normal	EB2006415	0.100	0.116	0.446	0.019	0.098	<0.0005	<0.002	0.027	0.091	0.015	0.017	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.001	<0.001	<0.001	0.544	0.930
MW227	8/03/2017	Normal	EB1704721	0.160	0.150	0.620	0.040	0.620	<0.02	<0.1	0.120	0.280	0.110	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.240	2.26
MW228	7/03/2017	Normal	EB1704721	0.030	0.030	0.300	<0.02	0.190	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.490	0.55
MW228	23/05/2019	Normal	657987	0.020	0.020	0.260	0.020	0.100	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.360	0.42
MW228	23/05/2019	Interlab_D	EB1913620	0.020	0.020	0.310	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.430	0.47
MW228	23/05/2019	Field_D	657987	0.020	0.020	0.270	0.010	0.110	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.380	0.43
MW229	23/05/2014	Normal	EB1412619	-	-	-	-	56.600	-	-	-	-	-	0.910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW229	23/04/2018	Normal	EB1810408	1.190	1.610	14.400	0.800	54.800	<0.02	0.200	0.460	2.580	0.280	0.600	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	69.200	76.9
MW229	22/10/2018	Normal	EB1825962	0.990	1.380	8.580	0.580	17.400	<0.02	0.200	0.410	2.400	0.240	0.570	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	26.000	32.8
MW229	9/04/2019	Normal	EB1909359	0.650	0.730	6.440	0.460	38.900	<0.02	0.200	0.250	1.500	0.150	0.420	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	45.300	49.7
MW229	11/07/2019	Normal	EB1918202	0.382	0.452	3.820	0.264	17.800	<0.0200	<0.020	0.146	0.842	0.054	0.246	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0500	<0.0200	<0.050	<0.0200	<0.050	<0.050	<0.0200	<0.050	<0.020	<0.020	<0.020	<0.020	21.600	24.0
MW229	22/10/2019	Normal	EB1928436	0.610	0.740	6.240	0.430	24.500	<0.02	0.100	0.260	1.410	0.140	0.390	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	30.700	34.8
MW229	22/10/2019	Interlab_D	RN1251384	0.540	0.620	5.700	0.320	30.000	<0.01	0.150	0.230	1.200	0.120	0.330	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW229	22/10/2019	Field_D	EB1928436	0.590	0.780	6.560	0.440	26.200	<0.02	0.300	0.260	1.360	0.140	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	32.800	37.0
MW229	30/10/2019	Normal	EB1928975	0.657	0.574	5.780	0.360	22.200	0.006	0.052	0.222	1.430	0.134	0.371	0.004	0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.007	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.007	<0.001	<0.001	28.000	31.8
MW229	5/03/2020	Normal	EB2006415	0.504	0.644	4.810	0.312	17.800	<0.0016	0.018	0.197	1.090	0.096	0.297	0.002	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	0.011	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	<0.002	<0.002	<0.002	22.600	25.8
MW229	25/03/2020	Normal	EB2008691	0.640	0.780	6.420	0.460	28.400	<0.16	<0.8	0.260	1.390	<0.16	0.340	<0.16	<0.16	<0.16	<0.16	<0.16	<0.40	<0.16	<0.40	<0.16	<0.40	<0.40	<0.16	<0.40	<0.16	<0.16	<0.16	<0.16	34.800	38.7
MW229	20/10/2020	Normal	EB2027817	0.600	0.840	6.400	0.460	19.900	<0.07	<0.4	0.260	1.620	0.160	0.430	<0.07	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	<0.07	<0.18	<0.18	<0.07	<0.18	<0.07	<0.07	<0.07	<0.07	26.300	30.7
MW229	20/04/2021	Normal	EB2110967	0.770	1.000	7.480	0.590	32.300	<0.05	<0.3	0.320	1.820	0.170	0.540	<0.05	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.13	<0.05	<0.13	<0.05	0.070	<0.05	<0.05	39.800	45.1
MW229	12/10/2021	Normal	EB2129575	0.790	1.000	7.350	0.630	22.400	<0.05	<0.2	0.300	1.930	0.170	0.540	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	29.800	35.1
MW229	12/10/2021	Interlab_D	RN1332382	0.620	0.640	5.500	0.290	19.000	<0.01	0.170	0.250	1.300	0.120	0.370	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW229	12/10/2021	Field_D	EB2129575	0.830	1.060	7.950	0.720	32.900	<0.04	0.300	0.320	1.780	0.190	0.570	<0.04	<0.04	<0.04	<0.04	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	<0.11	<0.04	<0.11	<0.05	<0.05	<0.05	<0.05	40.800	46.6
MW229	13/04/2022	Normal	EB2211261-AA	0.600	0.610	5.560	0.400	20.600	<0.05	<0.2	0.230	1.600	0.110	0.410	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	26.200	30.1
MW229	27/10/2022	Normal	EB2232878	0.67	0.96	9.23	0.79	29	<0.05	<0.2	0.33	2.47	0.2	0.550	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	38.2	44.2
MW229	13/04/2023	Normal	EB2311390	1.06	1.19	11.1	0.9	34.9	<0.04	<0.2	0.37	2.37	0.23	0.700	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	<0.1	<0.04	<0.1	<0.05	<0.05	<0.05	<0.05	46	52.800
MW229	25/10/2023	Normal	EB2333518	0.96	1	11.3	0.91	45.3	<0.02	0.2	0.4	2.21	0.19	0.870	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	56.6	63.3
MW230	7/03/2017	Normal	EB1704721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.740	-
MW230	7/03/2017	Normal	EB1704721	1.810	1.490	7.040	0.650	12.700	<0.02	2.500	8.890	7.720	5.700	8.160	1.880	0.050	<0.02	<0.02	<0.02	<0.05	0.040	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	2.080	0.300	<0.05	19.700	61
MW230	22/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.680	-
MW230	16/04/2018	Normal	EB1809957	0.940	0.980	5.700	0.440	9.900	<0.02	3.500	14.400	9.440	6.090	5.560	1.990	0.080	<0.02	<0.02	<0.02	<0.05	0.020	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	3.080	0.470	<0.05	15.600	62.6
MW230	28/06/2018	Normal	B685572-A	0.860	0.800	5.100	0.460	4.800	<0.01	2.900	9.400	13.000	5.200	5.900	0.960	0.038	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.170	0.260	<0.01	9.940	51.93
MW230	28/06/2018	Normal	B685572-B	1.000	0.900	5.200	0.570	4.300	<0.05	12.000	21.000	17.000	5.500	5.100	0.960	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	9.520	72.85
MW230	20/10/2018	Normal	EB1825398	0.960	0.830	4.670

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW232	23/10/2019	Normal	EB1928436	0.320	0.450	3.330	0.180	21.200	<0.02	0.700	3.310	2.050	1.300	1.280	0.430	0.970	<0.02	<0.02	<0.02	<0.05	0.060	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.200	6.540	<0.05	24.500	42.3
MW232	1/04/2020	Normal	EB2009332	0.330	0.370	2.530	0.330	12.400	<0.02	0.700	1.860	1.520	1.100	1.110	0.380	0.400	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.200	1.700	<0.05	14.900	24.9
MW232	20/10/2020	Normal	EB2027817	0.230	0.320	2.820	0.280	14.300	<0.04	0.800	2.310	1.560	1.080	1.160	0.380	0.450	<0.04	<0.04	<0.04	<0.09	0.040	<0.09	<0.04	<0.09	<0.09	<0.04	<0.09	<0.05	0.180	1.780	<0.05	17.100	27.7
MW232	14/04/2021	Normal	EB2110967	0.330	0.490	3.520	0.440	21.200	<0.04	0.700	2.340	1.710	1.200	1.420	0.370	0.420	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	0.240	2.550	<0.05	24.700	36.9
MW232	13/10/2021	Normal	EB2129575	0.080	0.120	1.190	0.040	4.540	<0.02	0.500	2.090	1.320	0.680	0.590	0.120	0.350	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.090	1.380	<0.05	5.730	13.1
MW232	17/04/2022	Normal	EB2211261-AA	0.630	0.720	5.850	0.420	14.900	<0.05	0.900	2.630	2.340	1.100	1.500	0.290	0.220	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	0.130	1.360	<0.05	20.800	33.0
MW232	27/10/2022	Normal	EB2232878	0.67	0.76	6.5	0.27	9.67	<0.05	1.4	3.59	2.39	1.17	1.560	0.25	0.25	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.12	<0.05	0.13	1.21	<0.05	16.2	29.8
MW232	12/04/2023	Normal	EB2311390	0.83	1.22	6.16	0.98	16.1	<0.02	1.1	2.74	2.32	1.17	1.700	0.47	0.38	<0.02	<0.02	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.17	1.7	<0.05	22.3	37.100
MW232	25/10/2023	Normal	EB2333518	3.42	2.54	7.43	0.16	2.87	<0.02	2.7	9.1	7.15	2.06	2.170	0.16	0.14	<0.02	<0.02	<0.02	<0.05	<0.06	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.18	0.67	<0.05	10.3	40.8
MW233	13/03/2017	Normal	EB1705014	0.300	0.280	0.850	<0.02	0.250	<0.02	<0.1	0.040	0.280	0.030	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.100	2.04
MW233	25/04/2018	Normal	EB1810408	0.210	0.170	0.840	<0.02	0.100	<0.02	<0.1	0.050	0.170	0.030	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.940	1.61
MW233	23/10/2018	Normal	EB1825962	0.560	0.460	2.320	0.030	0.610	<0.02	0.300	0.360	1.190	0.170	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.930	6.17
MW233	17/04/2019	Normal	EB1910290	0.240	0.210	1.170	<0.02	0.470	<0.02	<0.1	0.150	0.430	0.060	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.640	2.82
MW233	24/10/2019	Normal	EB1928436	0.100	0.100	1.110	0.050	0.630	<0.02	<0.1	0.060	0.160	0.040	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.740	2.47
MW233	26/03/2020	Normal	EB2008691	0.200	0.180	0.820	<0.02	0.450	<0.02	<0.1	0.060	0.250	0.040	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.270	2.05
MW233	21/10/2020	Normal	EB2027817	0.210	0.180	1.000	<0.02	0.270	<0.02	<0.10	<0.06	0.190	0.040	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.270	1.94
MW233	17/04/2021	Normal	EB2110967	0.210	0.170	0.960	0.030	0.540	<0.02	<0.10	0.060	0.210	0.040	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.500	2.29
MW233	14/10/2021	Normal	EB2129575	0.170	0.160	1.060	0.050	0.910	<0.02	<0.1	0.060	0.220	0.040	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.970	2.76
MW233	20/04/2022	Normal	EB2211261-AA	0.160	0.120	0.630	<0.02	0.220	<0.02	<0.1	0.040	0.130	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.850	1.35
MW233	20/04/2022	Interlab_D	RN1350926	0.160	0.120	0.640	<0.01	0.170	<0.01	0.056	0.035	0.092	0.013	0.014	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW233	20/04/2022	Field_D	EB2211261-AA	0.160	0.100	0.660	<0.02	0.220	<0.02	<0.1	0.030	0.130	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.880	1.35
MW233	24/11/2022	Normal	EB2235603	0.110	0.100	0.590	<0.02	0.150	<0.02	<0.1	0.030	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.740	1.110
MW233	13/04/2023	Interlab_D	RN1390586	0.14	0.12	0.79	0.02	0.25	<0.01	0.053	0.031	0.1	0.016	0.037	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	1.040	1.560
MW233	13/04/2023	Normal	EB2311390	0.21	0.14	0.77	<0.02	0.26	<0.02	<0.1	0.04	0.13	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.03	1.580
MW233	13/04/2023	Field_D	EB2311393-AA	0.19	0.16	0.81	0.02	0.27	<0.02	<0.1	0.04	0.14	0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.08	1.690
MW233	26/10/2023	Normal	EB2333518	0.11	0.1	0.68	<0.02	0.15	<0.02	<0.1	0.03	0.08	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.83	1.19
MW235	14/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	14/03/2017	Normal	EB1705326	5.480	3.920	10.400	0.240	6.490	<0.02	0.600	1.150	6.490	0.310	0.260	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	16.900	35.3
MW235	24/10/2018	Normal	EB1825962	4.860	4.590	11.200	0.250	5.590	<0.02	1.300	1.670	7.880	0.500	0.360	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	16.800	38.2
MW235	3/04/2019	Normal	EB1908876	5.210	4.740	14.800	0.270	5.320	<0.02	1.500	1.800	8.630	0.630	0.470	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	20.100	43.4
MW235	23/10/2019	Normal	EB1928436	6.060	6.660	23.000	0.320	4.830	<0.02	1.400	2.320	11.100	1.130	0.910	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	27.800	57.7
MW235	1/04/2020	Normal	EB2009332	4.900	4.670	16.400	0.350	4.810	<0.02	1.500	2.110	9.320	0.790	0.540	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	21.200	45.4
MW235	1/04/2020	Interlab_D	RN1270680	4.100	3.300	12.000	0.240	3.000	<0.01	1.700	1.500	7.400	0.610	0.490	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW235	1/04/2020	Field_D	EB2009332	4.890	4.560	16.700	0.370	4.780	<0.02	1.600	2.080	9.580	0.800	0.560	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	21.500	45.9
MW235	20/10/2020	Normal	EB2027817	4.860	4.770	13.700	0.280	4.380	<0.04	1.400	1.970	9.480	0.670	0.540	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	18.100	42.0
MW235	14/04/2021	Normal	EB2110967	6.730	7.340	20.100	0.400	5.290	<0.04	1.800	2.720	12.800	1.260	1.040	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.09	<0.04	<0.09	<0.05	<0.05	<0.05	<0.05	25.400	59.5
MW235	13/10/2021	Normal	EB2129575	6.940	8.200	22.100	0.610	5.190	<0.02	1.900	2.530	13.700	1.270	1.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	27.300	63.5
MW235	20/04/2022	Normal	EB2211261-AA	1.810	1.800	5.900	0.100	4.800	<0.05	0.500	0.770	3.100	0.220	0.180	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	10.700	19.2
MW235	26/10/2022	Normal	EB2232878	3.94	3.2	9.12	0.28	5.16	<0.02	1.2	1.57	7.78	0.4	0.300	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	14.3	33
MW235	11/04/2023	Normal	EB2311390	4.39	3.55	6.93	0.22	4.27	<0.02	1.2	1.58	5.3	0.37	0.230	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	11.2	28.000
MW235	26/10/2023	Normal	EB2333518	5.72	3.84	9.19	0.24	6.14	<0.02	1.6	2.03	6.75	0.36	0.300	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.3	36.2
MW236	14/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW236	14/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.330	-
MW236	14/03/2017	Normal	EB1705326	6.350	4.180	19.000	0.890	9.640	<0.02	0.900	1.180	6.820	0.660	1.350	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	28.600	51
MW236	17/04/2018	Normal	EB1809957	4.830	3.340	14.800	0.760	9.600	<0.02	1.300	1.250	5.820	0.620	1.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	24.400	43.4
MW236	17/04/2018	Interlab_D	AECO06_180424	3.100	2.000	9.800	0.490	5.800	<0.01	1.100	0.950	4.100	0.470	0.770	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW236	17/04/2018	Field_D	EB1809957	4.800	3.220	15.100	0.770	9.800	<0.02	1.200	1.220	5.850	0.610	1.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	24.900	43.6
MW236	24/10/2018	Normal	EB1825962	3.990	3.510	15.000	0.840	8.940	<0.02	1.100	1.250	5.940	0.700	1.430	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	23.900	42.7
MW236	3/04/2019	Normal	EB1908876	4.160	3.220	15.100	0.740	7.820	<0.02	1.300	1.250	5.850	0.670	1.270	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	22.900	41.4
MW236	23/10/2019	Normal	EB1928436	3.260	2.620	15.400	0.600	6.610	<0.02	0.800	0.960	4.660	0.540	1.000	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	22.000	36.4
MW236	1/04/2020	Normal	EB2009332	1.760	1.470	7.170	0.470	4.980	0.020	0.800	0.580	2.540	0.350	0.860	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	12.200	21.0
MW236	20/10/2020	Normal	EB2027817	3.430	2.300	8.960	0.560	6.290	<0.02	1.210	1.150	5.060	0.490	0.890	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.200	30.3
MW236	14/04/2021	Normal	EB2110967	3.560	2.640	9.330	0.520	5.080	<0.02	0.980	1.090	4.550	0.480	0.750	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	14.400	29.0
MW236	13/10/2021	Normal	EB2129575	3.360	2.200	7.570	0.390	3.780	<0.10	0.900	1.100	4.410	0.430	0.690	<0.10	<0.10	<0.10	<0.10	<0.10	<0.24	<0.10	<0.24	<0.10	<0.24	<0.24	<0.10	<0.24	<0.10	<0.10	<0.10	<0.10	11.400	24.8
MW236	13/10/2021	Interlab_D	RN1332382	5.100	4.400	15.000	0.260	3.200	<0.01	1.700	2.200	9.000	0.870	0.680	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW236	13/10/2021	Field_D	EB2129575	6.940	7.240	21.000	0.480	4.870	<0.02	2.000	2.420	13.400	1.250	1.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	25.900	60.7
MW236	20/04/2022	Normal	EB2211261-AA	0.660	0.460	1.840	<0.06	0.960	<0.02	0.400	0.310	1.020	0.060	0.230	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	2.800	5.94
MW236	26/10/2022	Normal	EB2232878	1.36	0.55	1.16	0.02	0.26	<0.02	0.8	0.83	2.86	0.15	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.42	8.16
MW236	11/04/2023	Normal	EB2311390	1.38	0.79	2.38	0.07	0.84	<0.02	0.8	0.65	2.2	0.15	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.22	9.480
MW236	26/10/2023	Normal	EB2333518	2.11	0.85	2.22	0.04	0.4	<0.02	0.8	0.82	2.12	0.17	0.240	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.11	<0.05	<0.05	2.62	9.88
MW240	14/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	14/03/2017	Normal	EB1705326	0.420	0.390	2.220	0.070	0.600	<0.02	<0.1	0.080	0.500	0.050	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.820	4.43
MW241	14/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	14/03/2017	Normal	EB1705326	0.370	0.340	2.570	0.140	2.280	<0.02	<0.1	0.130	0.450	0.090	0.190	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.850	6.56
MW241	17/04/2018	Normal	EB1809957	2.930	3.270	16.000	1.350	54.600	<0.02	0.800	1.310	3.860	0.780	1.450	0.050	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	70.600	86.4
MW241	24/10/2018	Normal	EB1825962	0.200	0.220	1.880	0.130	4.700	<0.02	<0.1	0.120	0.300	0.070	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.580	7.78
MW241	4/04/2019	Normal	EB1908876	0.190	0.220	1.810	0.120	4.280	<0.02	0.100	0.110	0.290	0.070	0.150	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.090	7.34
MW241	4/04/2019	Interlab_D	RN1229258	0.190	0.170	1.600	0.083	4.400	<0.01	0.120	0.100	0.240	0.057	0.130	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW241	4/04/2019	Field_D	EB1908876	0.190	0.200	1.660	0.100	3.570	<0.02	<0.1	0.100	0.290	0.060	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.230	6.28
MW241	23/10/2019	Normal	EB1928436	0.190	0.180	1.530	0.080	2.900	<0.02	<0.1	0.100	0.260	0.060	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.430	5.41
MW241	1/04/2020	Normal	EB2009332	0.200	0.190	1.570	0.120	3.930	<0.02	0.100	0.100	0.250	0.070	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.500	6.67
MW241	20/10/2020	Normal	EB2027817	0.170	0.160	1.420	0.090	2.640	<0.02	<0.1	0.080	0.240	0.060	0.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.060	4.99
MW241	14/04/2021	Normal	EB2110967	0.130	0.160	1.440	0.110	3.770	<0.02	<0.1	0.090	0.210	0.060	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.210	6.11
MW241	13/10/2

				PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW245	2/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	10/02/2016	Normal	EB1603672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	3/05/2016	Normal	EB1611808	0.030	0.020	0.180	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.260	<0.01
MW245	3/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	3/05/2016	Normal	EB1611805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	28/03/2017	Normal	EB1706327	0.070	0.070	0.490	0.020	0.180	<0.02	<0.1	<0.02	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.670	0.91
MW245	2/05/2018	Normal	EB1810943	0.040	0.050	0.340	<0.02	0.170	<0.02	<0.1	0.020	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.510	0.70
MW245	29/11/2018	Normal	EB1829217	0.040	0.040	0.290	<0.02	0.170	<0.02	<0.1	0.020	0.070	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.460	0.63
MW245	29/11/2018	Field_D	EB1829217	0.040	0.040	0.340	<0.02	0.160	<0.02	<0.1	<0.02	0.070	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.500	0.65
MW245	17/04/2019	Normal	EB1910290	0.040	0.040	0.300	<0.02	0.130	<0.02	<0.1	<0.02	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.430	0.59
MW245	23/10/2019	Normal	EB1928436	0.040	0.040	0.280	<0.02	0.100	<0.02	<0.1	<0.02	0.060	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.380	0.52
MW245	26/03/2020	Normal	EB2008691	0.040	0.040	0.310	<0.03	0.180	<0.03	<0.2	<0.03	0.060	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	<0.05	<0.03	<0.08	<0.05	<0.05	<0.05	<0.05	0.490	0.63
MW245	20/10/2020	Normal	EB2027817	0.040	0.040	0.220	<0.02	0.130	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.350	0.50
MW245	20/10/2020	Interlab_D	RN1292789	0.028	0.027	0.190	<0.01	0.110	<0.01	<0.05	<0.02	0.042	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.012	<0.01	<0.01	-	-
MW245	20/10/2020	Field_D	EB2027817	0.040	0.040	0.230	<0.02	0.130	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.360	0.51
MW245	20/04/2021	Normal	EB2110967	0.030	0.040	0.200	<0.02	0.120	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.320	0.46
MW245	11/10/2021	Normal	EB2129575	0.040	0.040	0.240	<0.02	0.140	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.380	0.53
MW245	11/10/2021	Interlab_D	RN1332382	0.031	0.031	0.190	<0.01	0.082	<0.01	<0.05	<0.02	0.044	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW245	11/10/2021	Field_D	EB2129575	0.040	0.050	0.260	<0.02	0.130	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.390	0.55
MW245	18/04/2022	Normal	EB2211261-AA	<0.02	<0.02	0.180	<0.02	0.100	<0.02	<0.1	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.05	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	0.280	0.32
MW245	18/04/2022	Interlab_D	RN1350926	0.031	0.033	0.210	<0.01	0.380	<0.01	<0.05	<0.02	0.046	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
MW245	18/04/2022	Field_D	EB2211261-AA	0.030	0.040	0.200	<0.02	0.120	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.320	0.44
MW245	3/11/2022	Normal	EB2232878	0.03	0.04	0.19	<0.02	0.12	<0.02	<0.1	<0.02	0.06	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.31	0.44
MW245	13/04/2023	Normal	EB2311390	0.05	0.05	0.28	<0.02	0.17	<0.02	<0.1	<0.02	0.06	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.45	0.620
MW245	26/10/2023	Normal	EB2333518	0.05	0.04	0.21	<0.02	0.12	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	1.73	<0.05	<0.05	0.33	2.19
MW247	16/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW247	16/03/2017	Normal	EB1705326	0.510	0.350	1.260	0.020	0.330	<0.02	<0.1	0.140	0.660	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.590	3.33
MW249	16/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	16/03/2017	Normal	EB1705326	0.660	0.660	3.750	0.040	0.070	<0.02	<0.1	0.200	0.980	0.090	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.820	6.54
MW249	17/04/2018	Normal	EB1809957	0.640	0.630	3.030	0.050	0.120	<0.02	0.100	0.260	1.020	0.100	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.150	6.03
MW249	25/10/2018	Normal	EB1825962	0.600	0.660	2.390	0.030	0.040	<0.02	0.200	0.300	1.200	0.110	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.430	5.58
MW249	3/04/2019	Normal	EB1908876	0.700	0.800	3.500	0.050	0.080	<0.02	0.200	0.340	1.300	0.130	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.580	7.19
MW249	23/10/2019	Normal	EB1928436	0.600	0.720	3.120	0.040	0.090	<0.02	0.100	0.300	1.160	0.130	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.210	6.33
MW249	1/04/2020	Normal	EB2009332	0.820	1.040	3.920	0.060	0.120	<0.02	0.300	0.420	1.470	0.200	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.040	8.46
MW249	1/04/2020	Interlab_D	RN1270680	0.730	0.740	2.900	0.025	0.068	<0.01	0.240	0.390	1.400	0.120	0.077	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW249	1/04/2020	Field_D	EB2009332	0.860	0.980	3.620	0.060	0.120	<0.02	0.300	0.420	1.520	0.200	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.740	8.19
MW249	20/10/2020	Normal	EB2027817	0.820	0.930	3.950	0.050	0.130	<0.02	0.200	0.410	1.620	0.170	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.080	8.38
MW249	14/04/2021	Normal	EB2110967	0.710	0.940	4.040	0.060	0.150	<0.02	0.200	0.430	1.410	0.170	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.190	8.22
MW249	13/10/2021	Normal	EB2129575	0.910	1.030	4.340	0.080	0.180	<0.02	0.300	0.510	1.820	0.210	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.520	9.52
MW249	19/04/2022	Normal	EB2211261-AA	0.570	0.570	2.580	<0.02	0.110	<0.02	<0.1	0.300	0.990	0.110	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	2.690	5.30
MW249	19/04/2022	Interlab_D	RN1350926	0.480	0.520	2.100	0.021	0.082	<0.01	0.220	0.220	0.840	0.090	0.060	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW249	19/04/2022	Field_D	EB2211261-AA	0.490	0.530	2.520	0.030	0.110	<0.02	0.200	0.270	0.980	0.110	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.630	5.32
MW249	26/10/2022	Normal	EB2232878	0.65	0.71	3.22	0.06	0.17	<0.02	0.2	0.37	1.46	0.16	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.39	7.09
MW249	11/04/2023	Normal	EB2311390	0.96	1.12	4.22	0.06	0.19	<0.02	0.3	0.49	1.48	0.18	0.120	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.41	9.120
MW249	26/10/2023	Normal	EB2333518	0.91	0.87	3.45	0.04	0.16	<0.02	0.2	0.45	1.11	0.16	0.120	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.61	7.47
MW250	5/11/2015	Normal	EB1534037	0.050	-	0.200	-	0.060	<0.02	-	-	0.050	<0.02	<0.01	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	0.260	-
MW250	5/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	5/11/2015	Interlab_D	480012	0.040	-	0.200	-	0.090	<0.01	<0.05	0.010	0.050	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	-	-	<0.05	-	-	<0.01	<0.05	<0.01	-	0.290	-
MW250	5/11/2015	Field_D	EB1534037	-	-	-	-	0.040	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW250	16/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	16/03/2017	Normal	EB1705326	1.240	1.220	10.800	0.310	2.730	<0.02	<0.1	0.330	1.630	0.210	0.480	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	13.500	19
MW252	14/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	14/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.850	-
MW252	14/03/2017	Normal	EB1705326	0.460	0.460	4.430	0.340	11.700	<0.02	<0.1	0.130	0.460	0.120	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	16.100	18.5
MW252	17/04/2018	Normal	EB1809957	0.250	0.260	2.010	0.160	6.560	<0.02	0.100	0.120	0.310	0.080	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	8.570	10.0
MW252	24/10/2018	Normal	EB1825962	2.100	2.740	12.900	0.940	23.800	<0.02	0.600	1.120	3.660	0.660	1.090	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	36.700	49.6
MW252	3/04/2019	Normal	EB1908876	0.610	0.630	3.420	0.220	8.140	<0.02	0.300	0.370	0.940	0.160	0.290	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	11.600	15.1
MW252	23/10/2019	Normal	EB1928436	1.650	2.030	13.200	0.760	26.300	<0.02	0.400	0.910	2.800	0.560	1.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	39.500	49.7
MW252	1/04/2020	Normal	EB2009332	1.400	1.990	9.780	1.070	20.400	<0.02	0.500	0.740	2.140	0.560	0.940	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	30.200	39.6
MW252	20/10/2020	Normal	EB2027817	1.160	1.120	6.550	0.460	16.300	<0.10	<0.50	0.650	1.550	0.380	0.680	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	22.800	28.8
MW252	14/04/2021	Normal	EB2110967	2.410	2.700	11.500	0.640	17.000	<0.10	0.830	1.550	3.430	0.760	0.970	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	28.500	41.8
MW252	13/10/2021	Normal	EB2129575	0.970	1.210	6.130	0.470	11.200	<0.02	0.300	0.510	1.220	0.310	0.530	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	17.300	22.9
MW252	20/04/2022	Normal	EB2211261-AA	0.300	0.200	1.250	0.050	4.200	<0.05	<0.2	0.150	0.370	0.070	0.100	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	5.450	6.69
MW252	20/04/2022	Interlab_D	RN1350926	0.320	0.250	1.300	0.051	3.400	<0.01	0.180	0.160	0.360	0.070	0.120	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW252	20/04/2022	Field_D	EB2211261-AA	0.280	0.240	1.300	0.080	4.050	<0.02	0.100	0.190	0.340	0.080	0.120	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.350	6.78
MW252	26/10/2022	Normal	EB2232878	0.11	0.08	0.5	0.03	2.23	<0.02	<0.1	0.06	0.13	0.03	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	2.73	3.2
MW252	11/04/2023	Normal	EB2311390	0.55	0.53	2.2	0.17	9.06	<0.02	0.2	0.45	0.72	0.19	0.260	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	11.3	14.400
MW252	26/10/2023	Interlab_D	RN1410219	0.73	0.61	2.5	0.15	8.7	<0.01	0.37	0.58	0.92	0.27	0.350	0.024	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.067	<0.01	<0.01	11.200	15.271
MW252	26/10/2023	Normal	EB2333518	0.84	0.52	2.17	0.12	9.91	<0.02	0.3	0.5	0.65	0.21	0.360	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.28	<0.05	<0.05	12.1	15.9
MW252	26/10/2023	Field_D	EB2333518	0.89	0.72	3.74	0.23	12.2	<0.02	0.4	0.78	1.08	0.22	0.480	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	15.9	20.8
MW253	14/03/2017	Normal	EB1705326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	14/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.120	-
MW253	14/03/2017	Normal	EB1705326	4.180	4.190	26.200	1.480	14.200	<0.02	0.400	0.720	4.670	0.580	1.230	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	40.400	57.8
MW253	22/05/2018	Normal	EB1812717	7.920	7.560	35.800	1.830	16.900	<0.02	1.100	1.690	11.500	1.290	1.500	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	52.700	87.1
MW253	22/05/2018	Interlab_D	AECO06_180530_1	4.700	4.800	25.000	1.400	18.000	<0.01	0.980	1.200	6.200	0.680	1.000	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.014	<0.01	<0.01	-	-
MW253	22/05/2018	Field_D	EB1812717	9.940	8.530	35.900	2.200	17.500	<0.02	1.200	1.840	11.900	1.480	1.630	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	53.400	92.1
MW253	25/10/2018	Normal	EB1825962	6.930	10.300	53.100	4.440	27.700	<0.02	1.200	1.830	8.430	1.520	2.800	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	80.800	118
MW253	4/04/2019	Normal	EB1908876	3.870	5.090	30.700	2.020	18.400	<0.02	0.800	1.040	5.810	0.790	1.450	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	49.100	70

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW255	26/03/2020	Normal	EB2008693	0.020	0.020	0.140	<0.02	0.060	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.200	0.26
MW255	21/10/2020	Normal	EB2027817	<0.02	0.020	0.120	<0.02	0.070	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.190	0.23
MW255	13/04/2021	Normal	EB2110967	<0.02	0.020	0.110	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.150	0.17
MW255	13/04/2021	Interlab_D	RN1312932	0.020	0.019	0.110	<0.01	0.042	<0.01	<0.05	<0.02	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW255	13/04/2021	Field_D	EB2110967	<0.02	0.020	0.100	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.140	0.16
MW255	15/10/2021	Normal	EB2129575	0.030	0.030	0.150	<0.02	0.070	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.220	0.30
MW255	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	0.020	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW255	26/10/2023	Normal	EB2333518	0.03	0.03	0.19	<0.02	0.1	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.29	0.35
MW256	4/11/2015	Normal	EB1534037	-	-	-	-	0.010	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW256	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	3/02/2016	Normal	EB1603057	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW256	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	4/05/2016	Normal	EB1611808	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-
MW256	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	21/03/2017	Normal	EB1705900	<0.02	<0.02	0.050	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW256	21/03/2017	Interlab_D	AECO06_170328	0.011	-	0.040	-	<0.01	<0.02	<0.05	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	-	-	0.040	-
MW256	21/03/2017	Field_D	EB1705900	<0.02	<0.02	0.050	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW257	4/11/2015	Normal	EB1534037	0.080	-	0.290	-	0.310	<0.02	-	-	0.070	<0.02	<0.01	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	0.600	-
MW257	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	3/02/2016	Normal	EB1603057	-	-	-	-	0.380	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW257	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	4/05/2016	Normal	EB1611808	-	-	-	-	0.240	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-
MW257	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	21/03/2017	Normal	EB1705900	0.030	0.030	0.330	<0.02	0.380	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.710	0.82
MW257	2/05/2018	Normal	EB1810943	<0.02	0.020	0.200	<0.02	0.280	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.480	0.52
MW257	22/10/2018	Normal	EB1825962	<0.02	<0.02	0.200	<0.02	0.230	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.430	0.45
MW257	15/04/2019	Normal	EB1910255	<0.02	<0.02	0.040	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.110	0.11
MW257	15/04/2019	Interlab_D	RN1231105	<0.01	<0.01	0.052	<0.01	0.076	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.067	<0.01	<0.01	-	-
MW257	15/04/2019	Field_D	EB1910255	<0.02	<0.02	0.050	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.110	0.11
MW257	23/10/2019	Normal	EB1928436	<0.02	<0.02	0.180	<0.02	0.170	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.350	0.35
MW257	26/03/2020	Normal	EB2008693	<0.02	<0.02	0.180	<0.02	0.230	<0.02	<0.1	<0.02	<0.02	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.410	0.42
MW257	26/03/2020	Interlab_D	RN1271386	0.012	0.012	0.170	<0.01	0.180	<0.01	<0.05	<0.02	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW257	26/03/2020	Field_D	EB2008693	<0.02	<0.02	0.200	<0.02	0.270	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.470	0.47
MW257	21/10/2020	Normal	EB2027817	<0.02	<0.02	0.030	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW257	17/04/2021	Normal	EB2110967	<0.02	<0.02	0.090	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.170	0.17
MW257	14/10/2021	Normal	EB2129575	<0.02	<0.02	0.140	<0.02	0.100	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.240	0.24
MW257	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	0.020	<0.02	<0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW257	27/10/2022	Normal	EB2232878	<0.02	<0.02	0.12	<0.02	0.11	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	0.23	0.23
MW257	14/04/2023	Normal	EB2311390	<0.02	<0.02	0.14	<0.02	0.1	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.24	0.240
MW257	26/10/2023	Normal	EB2333518	<0.04	<0.02	<0.11	<0.02	0.09	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.09	0.09
MW258	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW258	4/11/2015	Normal	EB1534037	0.230	-	1.690	-	1.020	<0.02	-	-	0.260	0.040	0.100	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	2.710	-
MW258	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW258	3/02/2016	Normal	EB1603057	-	-	-	-	1.090	-	-	-	-	-	0.070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW258	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW258	4/05/2016	Normal	EB1611808	0.100	0.100	0.950	0.060	0.830	<0.02	<0.1	<0.02	0.020	<0.02	0.020	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.780	<0.01
MW258	21/03/2017	Normal	EB1705900	0.200	0.260	2.610	0.160	3.100	<0.02	<0.1	<0.02	0.330	0.040	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.710	6.81
MW261	4/11/2015	Normal	EB1534037	0.030	-	0.110	-	0.070	<0.02	-	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	0.180	-
MW261	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW261	3/02/2016	Normal	EB1603057	-	-	-	-	0.060	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW261	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW261	4/05/2016	Normal	EB1611808	-	-	-	-	0.040	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-
MW261	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW261	21/03/2017	Normal	EB1705900	0.020	<0.02	0.150	<0.02	0.100	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.250	0.27
MW262	4/11/2015	Normal	EB1534037	0.030	-	0.160	-	0.080	<0.02	-	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	-	<0.1	<0.1	-	0.240	-
MW262	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW262	2/02/2016	Interlab_D	488339	-	-	-	-	<0.04	-	-	-	-	-	<0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.04	-	-
MW262	3/02/2016	Normal	EB1603057	-	-	-	-	0.090	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW262	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW262	3/02/2016	Field_D	EB1603057	-	-	-	-	0.060	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW262	4/05/2016	Normal	EB1611808	-	-	-	-	0.090	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-
MW262	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW262	21/03/2017	Normal	EB1705900	0.020	0.020	0.180	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.300	0.34
MW262	24/04/2018	Normal	EB1810403	0.030	<0.02	0.160	<0.02	0.170	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.330	0.36
MW262	18/10/2018	Normal	EB1826398	0.030	<0.02	0.140	<0.02	0.130	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.270	0.30
MW262	11/04/2019	Normal	EB1909641	0.030	0.020	0.200	<0.02	0.190	<0.02	<0.1	<0.02	<0.02	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.390	0.45
MW262	21/10/2019	Normal	EB1928436	0.040	0.040	0.270	<0.02	0.190	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.460	0.60
MW262	24/03/2020	Normal	EB2008693	0.050	0.040	0.280	<0.02	0.340	<0.02	<0.1	<0.02	0.040	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.620	0.78
MW262	21/10/2020	Normal	EB2027817	0.070	0.020	0.130	<0.02	0.060	<0.02	<0.1	<0.02	0.030	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.190	0.32
MW262	19/04/2021	Normal	EB2110967	0.050	0.040	0.240	0.020	0.260	<0.02	<0.1	<0.02	0.040	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.500	0.68
MW262	19/04/2021	Interlab_D	RN1312932	0.049	0.039	0.230	0.013	0.200	<0.01	<0.05	<0.02	0.038	0.013	0.022	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW262	14/10/2021	Normal	EB2129575	0.050	0.050	0.240	<0.02	0.180	<0.02	<0.1	<0.02	0.040	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.420	0.59
MW262	16/04/2022	Normal	EB2211261-AA	0.050	0.040	0.260	<0.02	0.270	<0.02	<0.1	<0.02	0.050	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.530	0.70
MW262	2/11/2022	Normal	EB2232878	0.08	0.04	0.2	<0.02	0.14	<0.02	<0.1	<0.02	0.05	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	0.34	0.53
MW262	14/04/2023	Normal	EB2311390	0.09	0.06	0.37	0.03	0.34	<0.02	<0.1	<0.02	0.07	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.71	1.000
MW262	26/10/2023	Normal	EB2333518	0.08	0.06	0.32	<0.02	0.23	<0.02	<0.1	<0.02	0.05	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.55	0.78
MW263	4/11/2015	Normal	EB1534037	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW263	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW263	3/02/2016	Normal	EB1603057	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW263	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW263	4/05/2016	Normal	EB1611808	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-
MW263	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW263	21/03/2017	Normal	EB1705900	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW264	4/11/2015	Normal	EB1534037	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW264	4/11/2015	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW264	3/02/2016	Normal	EB1603057	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-
MW264	3/02/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW264	4/05/2016	Normal	EB1611808	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	-
MW264	4/05/2016	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW264	21/03/2017	Normal	EB1705900	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW264	19/04/2018	Normal	EB1809892	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW264	19/10/2018	Normal	EB1826398	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW264	11/04/2019	Normal	EB1909641	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW264	23/05/2019	Normal	EB1913218	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW264	21/10/2019	Normal	EB1928436	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW265	25/10/2018	Normal	EB1825962	<0.02	<0.02	<0.02	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW265	12/04/2019	Normal	EB1909687	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW265	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW265	12/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW265	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW265	14/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW266	22/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.630	
MW266	22/03/2017	Normal	EB1705900	0.760	0.690	3.980	0.220	3.010	<0.02	<0.1	0.130	1.330	0.180	0.300	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.990	10.6
MW266	19/04/2018	Normal	EB1809892	0.720	0.570	2.570	0.140	1.900	<0.02	0.200	0.240	1.040	0.150	0.190	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	4.470	7.72
MW266	19/04/2018	Interlab_D	AEC006_180424	0.490	0.390	2.000	0.077	1.600	<0.01	0.190	0.200	0.840	0.120	0.130	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	
MW266	19/04/2018	Field_D	EB1809892	0.700	0.560	2.340	0.120	2.080	<0.02	0.200	0.240	1.030	0.150	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	4.420	7.62
MW266	12/04/2019	Normal	EB1909687	0.510	0.500	2.450	0.120	1.930	<0.02	0.200	0.210	1.000	0.140	0.190	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	4.380	7.25
MW266	23/03/2020	Normal	EB2008693	0.760	0.730	3.640	0.220	3.880	<0.02	0.300	0.280	1.270	0.240	0.310	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	7.520	11.6
MW266	20/04/2021	Normal	EB2110967	0.780	0.690	3.380	0.220	3.190	<0.02	0.240	0.320	1.280	0.230	0.340	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	6.570	10.7
MW266	16/04/2022	Normal	EB2211261-AA	0.590	0.510	2.600	0.180	3.080	<0.02	0.200	0.220	0.960	0.160	0.270	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	5.680	8.77
MW266	13/04/2023	Normal	EB2311390	1.05	0.86	3.76	0.36	4.72	<0.02	0.3	0.32	1.51	0.26	0.390	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	8.48	13.500
MW267	28/04/2017	Normal	EB1708633	<0.02	<0.02	0.030	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.150	0.15
MW267	19/06/2018	Normal	EB1814822	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	<1.00	<2.50	<1.00	<2.50	<2.50	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	1.50
MW267	17/04/2019	Normal	EB1910106	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW267	25/03/2020	Normal	EB2008692	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05
MW267	15/04/2021	Normal	EB2110947	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	<0.2	<0.30	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW267	13/04/2022	Normal	EB2211310	0.110	0.040	0.220	<0.02	0.250	<0.02	<0.1	0.050	0.110	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.470	0.80
MW267	18/04/2023	Normal	EB2312082-BF	0.11	0.05	0.16	<0.02	0.11	<0.02	<0.1	0.08	0.13	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.27	0.660
MW268	22/06/2017	Normal	EB1713107	0.090	0.060	0.500	0.040	1.320	<0.02	<0.1	<0.02	0.130	0.020	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.820	2.22
MW268	23/04/2018	Normal	EB1810404	0.100	0.060	0.210	<0.02	0.110	<0.02	<0.1	0.040	0.150	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.320	0.67
MW268	19/06/2018	Normal	EB1814822	0.100	<0.10	0.530	<0.10	0.600	<0.10	<0.5	<0.10	0.130	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	<0.10	<0.10	<0.10	1.130	1.36
MW268	9/04/2019	Normal	EB1909368	0.070	0.070	0.430	<0.02	0.460	<0.02	<0.1	0.020	0.130	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.890	1.19
MW268	25/03/2020	Normal	EB2008692	0.060	0.060	0.400	<0.02	0.330	<0.02	<0.1	0.020	0.110	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.730	1.00
MW268	15/04/2021	Normal	EB2110947	0.040	0.040	0.250	<0.02	0.180	<0.02	<0.1	<0.02	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.430	0.59
MW268	13/04/2022	Normal	EB2211310	0.040	0.050	0.390	<0.02	0.150	<0.02	<0.1	<0.02	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.540	0.71
MW268	18/04/2023	Normal	EB2312082-BF	0.13	0.1	0.5	0.02	0.23	<0.02	<0.1	0.04	0.14	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.73	1.180
MW269	23/06/2017	Normal	EB1713107	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW269	24/04/2018	Normal	EB1810404	0.020	<0.02	0.120	<0.02	0.120	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.240	0.31
MW269	19/06/2018	Normal	EB1814822	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10
MW269	19/06/2018	Interlab_D	AEC006_180620	0.012	<0.01	0.085	<0.01	0.074	<0.01	0.096	<0.02	0.026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW269	19/06/2018	Field_D	EB1814822	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	<1.00	<2.50	<1.00	<2.50	<2.50	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<1.00
MW269	25/07/2018	Normal	AEC006_180727	0.012	0.011	0.071	<0.01	0.064	<0.01	<0.05	<0.02	0.026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW269	25/07/2018	Interlab_D	EB1818067	<0.02	<0.02	0.090	<0.02	0.070	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.160	0.19
MW269	25/07/2018	Field_D	AEC006_180727	0.014	0.014	0.085	<0.01	0.076	<0.01	<0.05	<0.02	0.032	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW269	20/09/2018	Normal	EB1822863	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW269	20/09/2018	Normal	EB1822863	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	0.020	<0.02	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.010	0.07
MW269	20/09/2018	Interlab_D	AEC006_180925	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW269	20/09/2018	Field_D	EB1822863	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW269	19/10/2018	Normal	EB1826388	<0.02	<0.02	0.030	<0.02	0.020	<0.02	<0.1	0.040	<0.02	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.050	0.12
MW269	10/04/2019	Normal	EB1909368	<0.02	<0.02	0.060	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.120	0.13
MW269	25/10/2019	Normal	EB1928469	<0.02	<0.02	0.060	<0.02	0.070	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.190	<0.05	0.130	0.35
MW269	25/03/2020	Normal	EB2008692	<0.02	<0.02	0.060	<0.02	0.070	<0.02	<0.1	<0.16	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.090	<0.05	0.130	0.22
MW269	21/10/2020	Normal	EB2027838	<0.02	<0.02	0.040	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW269	15/04/2021	Normal	EB2110947	<0.02	<0.02	0.040	<0.02	0.100	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.140	0.14
MW269	15/10/2021	Normal	EB2129565	<0.02	<0.02	0.040	<0.02	0.080	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.120	0.12
MW269	13/04/2022	Normal	EB2211310	<0.02	<0.02	0.030	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW269	2/11/2022	Normal	EB2232884	<0.02	<0.02	0.04	<0.02	0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	0.1	0.1
MW269	25/10/2023	Normal	EB2333547	<0.02	<0.02	0.04	<0.02	0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.06	<0.05	0.09	0.15
MW269**	18/04/2023	Normal	EB2312082-BF	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.22	<0.05	<0.01	0.220
MW269**	16/08/2023	Normal**	EB2314294	<0.02	<0.02	0.030	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.140	<0.05	0.080	0.220
MW270	12/04/2017	Normal	EB1707726	<0.02	<0.02	0.050	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.060	0.06
MW270	12/04/2017	Normal	EB1708729	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.120	-
MW270	12/04/2017	Normal	EB1710671	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.120	-
MW270	12/04/2017	Interlab_D	AEC006_170420	<0.01	-	0.033	-	<0.01	<0.02	<0.05	<0.02	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	<0.05	<0.05	0.033	-
MW270	12/04/2017	Field_D	EB1710042	<0.02	<0.02	0.040	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.040	0.04
MW270	23/04/2018	Normal	EB1810404	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW270	9/04/2019	Normal	EB1909368	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW270	25/03/2020	Normal	EB2008692	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.070	<0.05	<0.01	0.07
MW270	15/04/2021	Normal	EB2110947	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW270	13/04/2022	Normal	EB2211310	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW270	10/05/2023	Normal	EB2314294	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.060	<0.05	<0.01	0.060
MW271	3/05/2017	Normal	EB1709197	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW271	3/05/2017	Interlab_D	AEC006_170508_1	<0.01	-	<0.02	-	<0.01	<0.02	<0.05	<0.02	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	<0.02	-
MW271	3/05/2017	Field_D	EB1709197	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW271	24/04/2018	Normal	EB1810404	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW271	9/04/2019	Normal	EB1909368	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW271	25/03/2020	Normal	EB2008692	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.04	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.320	<0.05	<0.01	0.32
MW271	15/04/2021	Normal	EB2110947	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW271	13/04/2022	Normal	EB2211310	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW271	10/05/2023	Normal	EB2314294	<0.02	<0.02	<0.01

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids												PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW273	13/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW274	23/03/2017	Normal	EB1705969	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW274	17/04/2018	Normal	EB1809892	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW274	16/04/2019	Normal	EB1909882	<0.02	<0.02	<0.02	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.050	0.05
MW274	25/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW274	17/04/2021	Normal	EB2110967	0.070	<0.02	<0.02	<0.02	<0.01	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.07
MW274	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02
MW274	14/04/2023	Normal	EB2311390	0.1	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.100
MW275	23/03/2017	Normal	EB1705969	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW275	18/04/2018	Normal	EB1809892	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW275	12/04/2019	Normal	EB1909687	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW275	25/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW275	17/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW275	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02
MW275	14/04/2023	Interlab_D	RN1390586	<0.01	<0.01	0.013	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	0.013	0.013
MW275	14/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW275	14/04/2023	Field_D	EB2311393-AA	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW276	22/03/2017	Normal	EB1705900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.900	-
MW276	22/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.570	-
MW276	22/03/2017	Normal	EB1705900	0.870	0.960	7.870	0.500	9.020	<0.02	<0.1	0.130	1.560	0.200	0.470	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	16.890	21.6
MW276	25/04/2018	Normal	EB1810408	1.200	1.250	9.850	0.660	12.200	<0.02	0.400	0.410	1.900	0.310	0.630	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	22.000	28.8
MW276	11/04/2019	Normal	EB1909687	0.740	0.800	5.740	0.270	4.280	<0.02	0.300	0.280	1.410	0.190	0.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	10.000	14.3
MW276	23/10/2019	Normal	EB1928436	0.840	1.070	8.540	0.480	9.260	<0.02	0.200	0.320	1.580	0.250	0.520	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	17.800	23.1
MW276	23/03/2020	Field_D	EB2008693	1.090	1.450	9.230	0.730	12.700	<0.04	<0.2	0.320	1.650	0.270	0.610	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	21.900	28.0
MW276	26/03/2020	Normal	EB2008693	1.240	1.520	8.050	1.040	12.700	<0.02	0.300	0.410	2.240	0.350	0.690	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	20.800	28.5
MW276	26/03/2020	Interlab_D	RN1271386	0.900	0.900	7.500	0.430	8.700	<0.01	0.350	0.360	1.600	0.250	0.560	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW276	21/10/2020	Normal	EB2027817	0.960	1.160	8.900	0.630	10.900	<0.02	0.350	0.380	1.780	0.290	0.560	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	19.800	25.9
MW276	19/04/2021	Normal	EB2110967	0.830	1.170	8.050	0.660	11.500	<0.02	0.300	0.350	1.570	0.260	0.570	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	19.600	25.3
MW276	19/04/2021	Interlab_D	RN1312932	0.840	0.840	6.300	0.400	7.800	<0.01	0.270	0.290	1.200	0.200	0.420	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW276	19/04/2021	Field_D	EB2110967	1.010	1.330	9.080	0.630	13.500	<0.05	0.400	0.410	1.910	0.300	0.660	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	22.600	29.2
MW276	14/10/2021	Normal	EB2129575	1.090	1.380	8.980	0.710	11.600	<0.02	0.400	0.470	1.940	0.340	0.680	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	20.600	27.6
MW276	15/04/2022	Normal	EB2211261-AA	0.830	1.000	7.780	0.600	11.200	<0.02	0.300	0.340	1.670	0.250	0.550	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	19.000	24.5
MW276	24/11/2022	Normal	EB2235603	0.820	1.120	7.160	0.510	9.390	<0.02	0.200	0.320	1.650	0.220	0.540	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	16.600	21.900
MW276	13/04/2023	Normal	EB2311390	1.03	1.19	8.05	0.67	10.4	<0.02	0.3	0.35	1.72	0.28	0.570	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	18.4	24.600
MW276	26/10/2023	Normal	EB2333518	0.93	0.98	7.69	0.51	11.7	<0.02	0.3	0.34	1.27	0.23	0.610	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	19.4	24.6
MW278	12/04/2017	Normal	EB1710043	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW278	24/04/2018	Normal	EB1810403	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW278	24/04/2018	Interlab_D	AECO06_180501	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW278	24/04/2018	Field_D	EB1810403	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW278	15/04/2019	Normal	EB1910095	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW278	25/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW278	16/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW278	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW278	14/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW279	22/03/2017	Normal	EB1705900	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW279	24/04/2018	Normal	EB1810403	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW279	15/04/2019	Normal	EB1910255	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW279	25/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW279	16/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW279	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02
MW280	22/03/2017	Normal	EB1705900	<0.02	<0.02	0.050	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.080	0.08
MW280	24/04/2018	Normal	EB1810403	<0.02	<0.02	0.110	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.170	0.17
MW280	12/04/2019	Normal	EB1909687	<0.02	<0.02	0.130	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.200	0.2
MW280	24/03/2020	Normal	EB2008693	<0.02	<0.02	0.110	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.200	0.20
MW280	17/04/2021	Normal	EB2110967	0.040	0.020	0.160	<0.02	0.090	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.250	0.31
MW280	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	0.160	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.280	0.28
MW280	14/04/2023	Normal	EB2311390	<0.02	<0.02	0.13	<0.02	0.11	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	0.240
MW281	22/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.240	-
MW281	22/03/2017	Normal	EB1705900	0.520	0.470	2.800	0.210	4.110	<0.02	<0.1	<0.02	0.640	0.150	0.340	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	6.910	9.24
MW281	24/04/2018	Normal	EB1810403	0.420	0.370	2.060	0.170	3.210	<0.02	0.100	0.110	0.480	0.130	0.250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	5.270	7.30
MW281	18/04/2019	Normal	EB1910255	0.360	0.300	1.790	0.130	2.620	<0.02	<0.1	0.090	0.400	0.100	0.240	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.410	6.03
MW281	2/04/2020	Normal	EB2010564	0.350	0.310	1.780	0.130	2.220	<0.02	<0.10	0.090	0.400	0.120	0.230	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	4.000	5.63
MW281	20/04/2021	Normal	EB2110959	0.260	0.280	1.330	0.140	2.350	<0.02	<0.1	0.100	0.380	0.100	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.680	5.14
MW281	14/04/2022	Normal	EB2211316	0.270	0.270	1.380	0.130	1.980	<0.02	<0.1	0.070	0.290	0.080	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.360	4.67
MW281	14/04/2023	Normal	EB2311390	0.36	0.26	1.41	0.13	2.34	<0.02	<0.1	0.07	0.3	0.08	0.170	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	3.75	5.120
MW282	22/03/2017	Normal	EB1705900	0.040	0.040	0.360	<0.02	1.280	<0.02	<0.1	<0.02	<0.02	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.640	1.73
MW282	24/04/2018	Normal	EB1810403	0.040	0.040	0.310	<0.02	1.300	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.610	1.69
MW282	15/04/2019	Normal	EB1910255	0.050	<0.02	0.340	<0.02	0.800	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.140	1.19
MW282	24/03/2020	Normal	EB2008693	0.070	0.060	0.390	<0.02	0.510	<0.02	<0.1	<0.02	<0.02	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.900	1.05
MW282	15/04/2021	Normal	EB2110967	0.080	0.070	0.430	<0.02	0.540	<0.02	<0.1	<0.02	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.970	1.16
MW282	15/04/2021	Interlab_D	RN1312932	0.084	0.056	0.400	0.010	0.420	<0.01	<0.05	<0.02	0.017	<0.01	0.019	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-	-
MW282	15/04/2021	Field_D	EB2110967	0.070	0.060	0.370	<0.02	0.490	<0.02	<0.1	<0.02	<0.02	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW285	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW285	15/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW285	15/04/2021	Interlab_D	RN1312932	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW285	15/04/2021	Field_D	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW285	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW285	14/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	0.040
MW288	23/06/2017	Normal	EB1713076	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.010	0.01
MW288	17/04/2018	Normal	EB1809904	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW288	5/04/2019	Normal	EB1908885	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW288	25/03/2020	Normal	EB2008680	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW288	21/04/2021	Normal	EB2110961	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW288	21/04/2022	Normal	EB2211307	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW288	18/04/2023	Normal	EB2312082-BN	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW289	25/06/2017	Normal	EB1713076	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW289	25/06/2017	Interlab_D	AEC006/170628/2	<0.01	-	<0.02	-	<0.01	<0.02	<0.05	<0.02	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	-	-	-	-	-	-	<0.05	<0.05	-	-	-
MW289	25/06/2017	Field_D	EB1713076	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW289	18/04/2018	Normal	EB1809904	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW289	5/04/2019	Normal	EB1908885	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW289	25/03/2020	Normal	EB2008680	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02
MW289	21/04/2021	Normal	EB2110961	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW289	21/04/2022	Normal	EB2211307	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW290	13/04/2017	Normal	EB1711574	<0.02	<0.02	0.070	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.070	0.07
MW290	13/04/2017	Normal	EB1711525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW290	18/05/2017	Normal	EB1710283	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW290	16/04/2018	Normal	EB1809905	0.040	<0.02	0.300	<0.02	<0.01	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.300	0.37
MW290	10/04/2019	Normal	EB1909640	0.030	<0.02	0.130	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.130	0.16
MW290	25/03/2020	Normal	EB2008681	0.020	0.020	0.220	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.240	0.28
MW290	21/04/2021	Normal	EB2110962	0.020	0.020	0.230	<0.02	0.020	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.250	0.31
MW290	21/04/2022	Normal	EB2211311	0.210	0.190	0.420	<0.02	<0.01	<0.02	<0.1	<0.02	0.050	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.420	0.87
MW290	19/04/2023	Normal	EB2312082-BO	0.07	0.06	0.17	<0.02	0.03	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.2	0.350
MW291	28/04/2017	Normal	EB1708626	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW291	17/04/2018	Normal	EB1809905	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW291	11/04/2019	Normal	EB1909640	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW291	25/03/2020	Normal	EB2008681	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.280	<0.05	<0.05	<0.05	<0.01	0.28
MW291	22/10/2020	Normal	EB2027833	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.050	<0.05	<0.05	<0.05	<0.01	0.05
MW291	21/04/2021	Normal	EB2110962	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.070	<0.05	<0.05	<0.05	0.030	0.10
MW291	21/04/2022	Normal	EB2211311	<0.02	<0.02	0.020	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW291	19/04/2023	Normal	EB2312082-BO	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW292	13/04/2017	Normal	EB1711576	<0.02	<0.02	0.160	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.190	0.19
MW292	13/04/2017	Normal	EB1711530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW292	18/05/2017	Normal	EB1710282	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW292	16/04/2018	Normal	EB1809907	<0.02	<0.02	0.230	<0.02	0.050	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.280	0.30
MW292	10/04/2019	Normal	EB1909642	<0.02	<0.02	0.180	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.270	0.27
MW292	25/03/2020	Normal	EB2008682	<0.02	<0.02	0.160	<0.02	0.160	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.320	0.32
MW292	19/04/2021	Normal	EB2110954	<0.02	<0.02	0.170	<0.02	0.140	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.310	0.31
MW292	14/04/2022	Normal	EB2211297	<0.02	<0.02	0.180	<0.02	0.160	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.340	0.34
MW292	14/04/2022	Interlab_D	RN1350929	<0.01	0.012	0.150	<0.01	0.110	<0.01	<0.05	<0.02	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	-	-
MW292	14/04/2022	Field_D	EB2211297	<0.02	<0.02	0.180	<0.02	0.160	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.340	0.34
MW292	17/04/2023	Interlab_D	RN1391817	0.01	0.012	0.13	<0.01	0.088	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	0.220	0.240
MW292	17/04/2023	Normal	EB2312082-BG	<0.02	<0.02	0.15	<0.02	0.13	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.28	0.280
MW292	17/04/2023	Field_D	EB2312082-BG	<0.02	<0.02	0.2	<0.02	0.17	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.37	0.370
MW293	28/04/2017	Normal	EB1708625	<0.02	<0.02	0.020	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.030	0.03
MW293	17/04/2018	Normal	EB1809907	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW293	19/10/2018	Normal	EB1826396	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW293	10/04/2019	Normal	EB1909642	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW293	25/03/2020	Normal	EB2008682	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW293	19/04/2021	Normal	EB2110954	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	0.02
MW293	14/04/2022	Normal	EB2211297	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW293	17/04/2023	Normal	EB2312082-BG	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	0.020
MW294	28/04/2017	Normal	EB1708633	0.070	0.060	0.640	0.030	0.940	<0.02	0.400	0.460	0.110	0.040	0.160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.580	2.91
MW294	23/04/2018	Normal	EB1810404	0.060	0.060	0.460	0.030	0.610	<0.02	0.400	0.560	0.300	0.150	0.150	0.060	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.070	2.84
MW294	9/04/2019	Normal	EB1909368	0.050	0.040	0.330	<0.02	0.480	<0.02	0.300	0.470	0.250	0.130	0.140	0.070	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.810	2.26
MW294	25/03/2020	Normal	EB2008692	0.100	0.100	0.660	0.040	0.660	<0.02	0.500	0.770	0.370	0.200	0.160	0.080	0.020	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.320	3.66
MW294	15/04/2021	Normal	EB2110947	0.080	0.100	0.620	0.040	0.650	<0.02	0.400	0.770	0.360	0.220	0.130	0.050	0.020	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.270	3.44
MW294	15/04/2022	Normal	EB2211310	0.060	0.060	0.580	<0.05	1.080	<0.02	0.300	0.340	0.320	0.160	0.150	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	1.660	3.05
MW294	18/04/2023	Normal	EB2312082-BF	0.03	0.02	0.17	<0.02	0.58	<0.02	0.1	0.13	0.1	0.05	0.050	0.2	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	0.75	1.430
MW295	28/04/2017	Normal	EB1708633	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW295	24/04/2018	Normal	EB1810404	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW295	10/04/2019	Normal	EB1909368	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.100	<0.05	<0.05	<0.05	0.020	0.12
MW295	25/03/2020	Normal	EB2008692	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.06	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.500	<0.05	<0.05	<0.05	<0.01	0.50
MW295	21/10/2020	Normal	EB2027838	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.250	<0.05	<0.05	<0.05	<0.01	0.25
MW295	15/04/2021	Normal	EB2110947	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.210	<0.05	<0.05	<0.05	<0.01	0.21
MW295	13/04/2022	Normal	EB2211310	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW295	13/04/2022	Field_D	EB2211310	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW295	18/04/2023	Normal	EB2312082-BF	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW299	29/09/2017	Normal	EB1720333	12.600	11.300	42.500	4.190	66.500	<0.02	0.700	6.670	36.400	10.700	12.500	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.190	<0.05	<0.05	109.000	204
MW299	18/04/2018	Normal	EB1809957	6.380	5.670	23.600	1.400	18.400	<0.02	1.800	2.580	12.200	2.410	4.130	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.110	<0.05	<0.05	42.000	78.7
MW299	27/06/2018	Normal	B684675-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW299	27/06/2018	Normal	B684675-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW299	27/06/2018	Normal	B684675-A	6.000	5.200	21.000	0.850	21.000	<0.01	1.400	2.400	12.000	1.900	4.700	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	41.510	76.27
MW299	27/06/2018	Normal	B684675-A	4.200	3.900	21.000	0.720	23.000	<0.01	0.930	1.600	11.000	1.500	3.800	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	43.790	71.17
MW299	27/06/2018	Normal	B684675-B	6.800	5.700	21.000	0.950	15.000	<0.05	10.000	9.100	21.000	2.700	3.600	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	36.240	95.91
MW299	27/06/2018	Normal	B684675-B	4.800	4.200	18.000	0.850	12.000	<0.05	7.200	6.700	16.000	1.900	3.200	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	29.720	74.57
MW299	25/10/2018	Normal	EB1825962	3.020	3.340	11.500	1.360	29.300	<0.02	0.900	1.430	6.170	1.270	2.580	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	40.800	60.9
MW299	25/10/2018	Interlab_D	AEC096_181030_1	2.800	2.600	15.000	1.100	31.000	<0.01	1.000	1.300	5.600	1.000	2.200	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.029	<0.01	<0.01	<0.01	-	-
MW299	25/10/2018	Field_D	EB1825962	2.900	3.530	12.900	1.440	34.400	<0.02	0.900	1.330	5.990	1.300	2.550	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	47.300	67.2
MW299	5/04/2019	Normal	EB1908876	18.400	15.000	54.800	4.050	46.100	<0.02	5.900	7.250	32.100	5.700	8.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.100	<0.05	<0.05	101.000	197
MW299	10/07/2019	Normal	EB1918202	3.570	3.580	12.600	0.589	8.480	<0.0005	0.238	1.840	8.320	1.270	2.180	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.072	<0.001	<0.001	21.100	42.7
MW299	23/10/2019	Normal	EB1928436	1.790	2.700	7.360	0.060	0.340	<0.02	1.100	0.740	3.020	0.480	0.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	7.700	18.0
MW299	30/10/2019	Normal	EB1928975	3.930	3.070	12.700	0.610	7.470	<0.0005	0.392	1.770	8.220	1.300	2.000	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.001	0.070	<0.001	<0.001	20.200	41.5
MW299	30/10/2019	Field_D	EB1928975	4.020	3.310	13.100	0.656	8.010	<0.0005	0.563	1.900	9.520	1.360	2.250	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.063	<0.001	<0.001	21.100	44.8
MW299	5/03/2020	Normal	EB2006415	3.390	3.510	12.000	0.698	8.010	<0.0016	0.190	1.780	7.690	1.310	1.920	0.003	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.044	<0.002	<0.002	20.000	40.5
MW299	5/03/2020	Field_D	EB2006415	3.670	2.610	9.130	0.523	6.740	<0.0016	0.230	1.680	7.010	1.470	1.680	0.003	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0040	<0.0016	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	<0.002	0.053	<0.002	<0.002	15.900	34.8
MW299	26/03/2020	Normal	EB2008691	4.180	4.250	15.600	0.660	11.600	<0.06	0.500	2.050	8.980	1.750	2.300	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.16	<0.06	<0.16	<0.06	0.100	<0.06	<0.06	27.200	52.0
MW299	20/10/2020	Normal	EB2027817	4.270	4.660	17.500	0.840	8.940	<0.07	1.500	2.280	10.700	2.040	3.100	<0.07	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	<0.07	<0.18	<0.18	<0.07	<0.18	<0.07	<0.07	<0.07	<0.07	<0.07	26.400	55.8
MW299	17/04/2021	Normal	EB2110967	4.040	4.090	13.700	0.610	10.700	<0.21	1.500	2.080	8.360	1.730	2.380	<0.21	<0.21	<0.21	<0.21	<0.21	<0.53	<0.21	<0.53	<0.21	<0.53	<0.53	<0.21	<0.53	<0.21	<0.21	<0.21	<0.21	<0.21	24.400	49.2
MW299	12/10/2021	Normal	EB2129575	7.500	7.160	31.300	1.730	15.400	<0.02	2.400	4.270	18.600	3.920	6.390	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.02	<0.05	0.250	<0.05	<0.05	46.700	98.9
MW299	17/04/2022	Normal	EB2211261-AA	17.700	16.900	80.800	5.410	88.500	<0.24	5.500	10.600	49.600	10.400	22.900	<0.24	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.61	<0.24	<0.61	<0.24	<0.24	1.200	<0.24	<0.24	169.000	310
MW299	26/10/2022	Normal	EB2232878	17.6	12.8	70.3	6.41	107	<0.1	4.8	9.32	51.1	11.9	21.600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.24	<0.95	<0.24	<0.24	<2.38	<2.38	<0.1	<0.1	<0.95	<0.95	<0.1	<0.1	<0.1	177	313
MW299	12/04/2023	Normal	EB2311390	10.1	8.56	43.3	6.07	234	<0.44	3.4	6.07	28.4	6.07	15.200	<0.44	<0.44	<0.44	<0.44	<0.44	<1.09	<0.44	<1.09	<0.44	<1.09	<1.09	<0.44	<1.09	<0.44	<0.44	<0.44	<0.44	<0.44	277	361.000
MW299	24/10/2023	Normal	EB2333518	17.6	15	71.4	4.3	91.7	<0.1	5.7	10.3	37.3	9.01	18.600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.24	<0.1	<0.24	<0.1	0.69	<0.1	<0.1	<0.1	163	282
MW300	11/03/2017	Normal	EB1705014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144.100	-
MW300	11/03/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81.900	-
MW300	11/03/2017	Normal	EB1705014	26.300	23.800	82.000	4.640	62.100	<0.02	3.400	6.260	40.000	4.030	14.000	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	144.000	266
MW300	29/09/2017	Normal	EB1720333	22.700	23.900	62.900	5.140	63.600	<0.02	1.400	10.400	59.400	14.700	16.400	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.200	<0.05	<0.05	<0.05	126.000	281
MW300	11/05/2018	Normal	EB1811568	18.400	15.000	55.600	5.500	58.700	<0.02	5.000	6.860	33.800	6.330	8.500	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.150	<0.05	<0.05	<0.05	114.000	214
MW300	26/06/2018	Normal	B684675-A	18.000	15.000	63.000	3.200	68.000	<0.01	4.800	7.400	34.000	5.800	14.000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	130.550	232.60
MW300	26/06/2018	Normal	B684675-B	20.000	16.000	56.000	3.100	28.000	<0.05	23.000	21.000	50.000	6.200	9.500	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.05	<0.1	<0.05	<1	<0.25	<0.05	<1	<0.05	<0.25	<0.05	<0.05	<0.05	83.290	231.83
MW300	24/10/2018	Normal	EB1825962	16.500	17.000	51.600	5.570	46.100	<0.02	6.500	8.150	22.300	7.180	7.970	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.140	<0.05	<0.05	<0.05	97.700	189
MW300	5/04/2019	Normal	EB1908876	1.760	2.480	7.060	0.070	0.440	<0.02	0.500	0.720	2.900	0.440	0.360	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	7.500	16.7
MW300	10/07/2019	Normal	EB1918202	12.200	12.400	38.900	2.850	32.300	<0.0200	1.450	5.930	24.000	3.530	6.380	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0500	<0.0200	<0.050	<0.0200	<0.050	<0.050	<0.0200	<0.050	<0.020	0.044	<0.020	<0.020	71.200	140
MW300	23/10/2019	Normal	EB1928436	16.600	15.800	52.200	2.810	28.700	<0.02	3.400	6.500	28.800	5.040	7.260	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.110	<0.05	<0.05	<0.05	80.900	167
MW300	30/10/2019	Normal	EB1928975	1.490	1.180	4.480	0.280	3.330	<0.0005	0.159	0.576	2.770	0.368	0.671	0.011	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.003	0.102	0.002	<0.001	7.810	15.4
MW300	5/03/2020	Normal	EB2006415	16.500	16.000	51.600	4.590	43.500	<0.0160	0.866	7.610	32.800	5.300	8.670	<0.0160	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.0160	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	<0.016	0.093	<0.016	<0.016	95.100	188
MW300	24/03/2020	Normal	EB2008691	16.100	14.500	50.000	4.070	40.600	<0.19	3.300	6.160	27.200	5.240	7.330	<0.19	<0.19	<0.19	<0.19	<0.19	<0.48	<0.19	<0.48	<0.19	<0.48	<0.48	<0.19	<0.48	<0.19	<0.19	<0.19	<0.19	<0.19	90.600	174
MW300	20/10/2020	Normal	EB2027817	11.200	11.900	48.200	3.980	45.600	<0.18	3.400	5.160	24.100	4.870	8.020	<0.18	<0.18	<0.18	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.44	<0.18	<0.44	<0.18	<0.18	<0.18	<0.18	<0.18	93.800	166
MW300	17/04/2021	Normal	EB2110967	9.740	10.300	47.800	4.370	59.800	<0.10	3.460	4.590	19.100	4.290	8.360	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	<0.10	0.160	<0.10	<0.10	108.000	172
MW300	17/04/2021	Interlab_D	RN1312932	7.300	6.100	34.000	2.000	37.000	<0.01	2.500	2.900	12.000	2.600	5.100	0.013	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.120	<0.01	<0.01	-	-
MW300	17/04/2021	Field_D	EB2110967	8.930	9.830	42.400	4.000	63.300	<0.08	3.000	4.420	18.400	4.120	8.830	<0.08	<0.08	<0.08	<0.08	<0.08	<0.21	<0.08	<0.21	<0.08	<0.21	<0.21	<0.08	<0.21	<0.08	0.120	<0.08	<0.08	106.000	167
MW300	12/10/2021	Normal	EB2129575	9.580	9.840	42.900	4.270	44.100	<0.05	3.500	4.750	19.300	4.480	8.590	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	0.130	<0.05	<0.05	87.000	151
MW300	17/04/2022	Normal	EB2211261-AA	4.940	5.350	36.600	4.140	83.600	<0.27	1.400	2.810	12.400	2.890	9.030	<0.27	<0.27	<0.27	<0.27	<0.27	<0.68	<0.27	<0.68	<0.27	<0.68	<0.68	<0.27	<0.68	<0.27	<0.27	<0.27	<0.27	<0.27	120.000	163
MW300	26/10/2022	Normal	EB2232878	5.28	5.14	30.4	3.86	70.2	<0.1	1.8	2.76	11.8	3.06	8.560	<0.1	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.24	<0.24	<0.24	<0.1	<0.24	<0.1	0.16	<0.1	<0.1	101	143
MW300	12/04/2023	Normal	EB2311390	6.39	6.58	30.9	4.78	63.1	<0.1	1.9	2.89	12	2.9	7.720	<0.1	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.24	<0.1	<0.24	<0.1	0.12	<0.1	<0.1	94	139.000
MW300	24/10/2023	Normal	EB2333518	6.37	6.34	32	3.9	59.5	<0.02	2.1	3.06	11	2.53	7.520	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.62	<0.05	<0.05	91.5	135
MW301	24/01/2019	Normal	EB1902057	0.020	0.020	0.140	<0.02	0.540	<0.02	<0.1	<0.02	0.030	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.680	0.77
MW301	5/03/2020	Normal	EB2006420	0.020	0.020	0.150	<0.02	0.080	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.230	0.30
MW301	5/03/2020	Interlab_D	RN1267043	0.020	0.019	0.120	<0.01	0.074	<0.01	<0.05	<0.02	0.024	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
MW301	5/03/2020	Field_D	EB2006420	0.020	0.020	0.150	<0.02	0.090	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.240	0.31
MW303	24/01/2019	Normal	EB1902057	0.050	0.050	0.340	0.030	1.100	<0.02	<0.1	0.220	0.290	0.190	0.150	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.440	2.42
MW304	24/01/2019	Normal	EB1902057	0.180	0.180	1.060	0.110	2.460	<0.02	0.200	0.600	0.890	0.460	0.460	0.060	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.100	<0.05	<0.05	<0.05	3.520	6.76
MW305	24/01/2019	Normal	EB1902057	0.370	0.350	2.070	0.200	2.320	<0.02	0.200	0.620	1.320	0.460	0.660	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.100	<0.05	<0.05	<0.05	4.390	8.70
MW306	17/04/2019	Normal	EB1911014	0.231	0.263	1.450	0.200	2.620	<0.0005	0.067	0.695	1.120	0.424	0.677	0.053	0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.004	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.103	0.028	<0.001	<0.001	4.070	7.94
MW306	4/09/2019	Normal	EB1923359	0.460	0.480	2.880	0.320	7.830	<0.02	0.600	1.740	2.150	0.730	1.090	0.080	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.140	<0.05	<0.05	<0.05	10.700	18.5
MW307	3/04/2019	Rinsate	EB1910258	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.0003
MW307	17/04/2019	Normal	EB1911014	0.229	0.258	1.320	0.144	0.999	<0.0005	0.056	0.327	0.704	0.225	0.372	0.045	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.028	<0.001	<0.001	2.320	4.71
MW307	18/09/2019	Normal	EB1924571	0.341	0.339	2.150	0.109	1.250	<0.0005	0.116	0.369	1.070	0.302	0.436	0.030	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.021	<0.001	<0.001	3.400	6.53
MW308	17/04/2019	Normal	EB1911014	0.642	0.694	3.430	0.598	8.920	0.004	0.136	1.490	2.460	0.774	1.200	0.058	0.005	<0.0005	<0.0005	<0.0005	<0.0005	0.008	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.110	0.044	<0.001	12.400	20.6
MW309	17/04/2019	Normal	EB1911014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW309	17/04/2019	Normal	EB1911014	0.157	0.172	0.974	0.154	2.820	<0.0005	0.105	0.218	0.472	0.127	0.222	0.006	0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.011	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.020	0.006	<0.001	3.790	5.46
MW310	3/07/2019	Normal	EB1917426	0.002	0.002	0.016	<0.0005	0.015	<0.0005	<0.002	0.003	0.002	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.030	0.0420
MW311	3/07/2019	Normal	EB1917426	0.003	0.002	0.017	0.001	0.028	<0.0005	0.008	0.008	0.008	0.002	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.045	0.0804
MW311	15/08/2019	Normal	EB1921470	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW311	30/10/2019	Normal	EB1928975	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.0005
MW311	5/03/2020	Normal	EB2006415	<0.0005	<0.0005	0.002	<0.0005	0.009	<0.0005	0.004	0.002	0.003	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.011	0.0222
MW312	23/05/2019	Normal	657987	0.200	0.240	1.100	0.080	0.910	<0.01	0.220	0.590	0.900	0.150	0.130	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.290	<0.01	<0.01	2.010	4.89
MW313	23/05/2019	Normal	657987	0.120	0.130	0.640	0.020	0.110	<0.01	0.120	0.600	0.540	0.220	0.070	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.0003	0.0003
PFAS NEMP 2020 Drinking Water														0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
MW329	14/04/2021	Normal	EB2110564	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW401D	20/04/2021	Normal	EB2110910	0.260	0.240	1.230	0.060	0.830	<0.02	<0.1	0.120	0.400	0.050	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.060	3.26
MW401S	20/04/2021	Normal	EB2110910	<0.02	<0.02	0.020	<0.02	<0.01	<0.02	0.200	0.180	0.910	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	1.31
MW401S	20/04/2021	Interlab_D	RN1312581	<0.01	<0.01	0.022	<0.01	<0.02	<0.01	0.230	0.130	0.770	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.014	<0.01	<0.01	-	-
MW401S	20/04/2021	Field_D	EB2110910	<0.02	<0.02	0.020	<0.02	<0.01	<0.02	0.200	0.170	0.900	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.020	1.29
MW402D	20/04/2021	Normal	EB2110910	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	0.130	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	0.13
MW402S	20/04/2021	Normal	EB2110910	0.620	0.800	4.140	0.290	4.030	<0.02	0.300	0.360	1.580	0.250	0.420	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	8.170	12.8
MW403D	20/04/2021	Normal	EB2110910	0.250	0.300	2.150	0.130	1.980	<0.02	<0.10	<0.16	0.540	0.090	0.150	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	4.130	5.59
MW403S	20/04/2021	Normal	EB2110910	0.120	0.130	0.860	0.030	0.240	<0.02	<0.10	0.070	0.300	0.040	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.100	1.85
MW562	20/04/2022	Normal	EB2211261-AA	3.300	2.370	8.810	<0.14	0.610	<0.02	0.900	1.570	4.490	0.430	0.550	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	9.420	23.0
MW562	3/11/2022	Normal	EB2232878	2.72	2.66	14.4	0.19	0.39	<0.02	0.7	1.19	4.69	0.68	0.740	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	14.8	28.4
MW562	12/04/2023	Normal	EB2311390	0.09	0.06	0.17	<0.02	0.03	<0.02	0.1	0.15	0.13	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.2	0.750
MW562	26/10/2023	Normal	EB2333518	0.11	0.06	0.21	<0.02	<0.04	<0.02	<0.1	0.14	0.12	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.21	0.67
MW563	20/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.07	<0.02	<0.02	<0.02	<0.1	0.220	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	0.26
MW563	3/11/2022	Normal	EB2232878	0.05	0.04	0.1	<0.02	0.01	<0.02	<0.1	0.18	0.09	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.11	0.48
MW563	12/04/2023	Normal	EB2311390	2.9	3.21	16.2	0.29	0.5	<0.05	0.7	1.1	4.37	0.66	0.740	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	16.7	30.700
MW563	26/10/2023	Interlab_D	RN1410219	1.6	1.9	13	0.18	0.64	<0.01	0.7	0.95	2.4	0.58	0.680	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.05	<0.01	<0.01	13.640	22.680
MW563	26/10/2023	Normal	EB2333518	2.75	2.96	18.3	0.27	1.06	<0.02	0.6	1.09	3.54	0.63	0.880	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	<0.1	<0.05	<0.05	19.4	32.1
MW563	26/10/2023	Field_D	EB2333518	2.7	3.25	19.6	0.3	0.99	<0.02	0.7	1.2	3.66	0.65	0.910	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.05	0.06	<0.05	<0.05	20.6	34

LOR is limit of reporting
µg/L is micrograms per litre
'-' denotes no analysis undertaken
'<' denotes concentration is less than
NEMP is National Environmental Mangement Plan
** Due to an analytical issue, sample 0207_MW269 was not validated and results have not been considered for assessment purposes. The well was resampled on 16/08/2023.

*** Due to the first-time detection of PFAS in the sample from MW151, the well was resampled on 16/08/2023.
First-time detections

Table T3 Historical PFAS Analytical Results at Brymaroo Satellite Site - Groundwater

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - Perfluoroalkyl Sulfonamides							PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorodecanoic acid (PFDA)	Perfluorononanoic acid (PFNA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Drinking Water													0.56																	0.07	
Location Code	**Date**	**Sample Type**	**Lab Report**																													
MW001	29/09/2015	Normal	EB1530503	-	-	-	-	<0.02	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-
MW001	15/03/2017	Normal	EB1713888	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	0.150	0.070	0.050	0.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.050	<0.05	0.020	0.560
MW001	6/02/2018	Normal	EB1803820	0.060	0.050	0.240	<0.02	0.050	<0.02	<0.1	0.200	0.060	0.020	0.200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.290	0.880
MW001	2/04/2019	Normal	EB1908876	0.060	0.030	0.270	<0.02	0.030	<0.02	<0.1	0.260	0.080	0.020	0.320	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.300	1.070
MW001	20/04/2022	Normal	EB2211260	0.090	0.080	0.310	<0.02	0.100	<0.02	<0.1	0.250	0.070	0.030	0.280	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.060	<0.05	<0.05	0.410	1.270
MW001	11/04/2023	Normal	EB2311390	0.060	0.060	0.220	<0.02	0.110	<0.02	<0.1	0.180	0.060	0.030	0.240	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.200	<0.05	<0.05	0.330	1.160
MW002	15/03/2017	Normal	EB1713888	0.060	0.040	0.170	<0.02	0.070	<0.02	<0.1	0.100	0.040	0.040	0.190	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.240	0.710
MW002	6/02/2018	Normal	EB1803820	0.040	0.020	0.040	<0.02	<0.01	<0.02	0.100	0.210	0.080	0.040	0.490	<0.02	0.020	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.060	<0.05	<0.05	0.040	1.100
MW002	2/04/2019	Normal	EB1908876	0.100	0.060	0.200	<0.02	0.020	<0.02	0.100	0.360	0.150	0.040	0.570	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.060	<0.05	<0.05	0.220	1.660
MW002	1/04/2020	Normal	EB2009331	0.280	0.160	0.520	<0.02	0.040	<0.02	0.200	0.840	0.190	0.060	1.380	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	1.130	<0.05	<0.05	0.560	4.800
MW002	16/04/2021	Interlab_D	RN1312580	0.320	0.180	0.500	<0.01	<0.02	<0.01	0.450	1.400	0.290	0.051	2.600	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.01	0.740	0.018	<0.01	-	-
MW002	16/04/2021	Normal	EB2110965	0.310	0.250	0.560	<0.02	0.030	<0.02	0.400	1.690	0.360	0.070	3.350	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.700	<0.05	<0.05	0.590	7.720
MW002	16/04/2021	Field_D	EB2110965	0.310	0.240	0.560	<0.02	0.030	<0.02	0.400	1.720	0.350	0.070	3.360	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.770	<0.05	<0.05	0.590	7.810
MW002	19/04/2022	Normal	EB2211260	0.750	0.520	1.600	<0.02	<0.04	<0.02	2.300	18.700	6.610	0.300	24.000	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	1.600	54.800
MW002	11/04/2023	Normal	EB2311390	0.720	0.480	1.330	0.020	0.050	<0.02	2.100	13.600	5.930	0.260	18.700	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.090	<0.05	<0.05	1.380	43.300
MW003	29/09/2015	Normal	EB1530503	-	-	-	-	6.140	-	-	-	-	0.620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.200	<0.1	-	-	-
MW003	15/03/2017	Normal	EB1713888	1.400	1.450	7.450	0.330	4.490	<0.02	<0.1	1.440	0.350	0.610	0.930	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.170	<0.05	<0.05	11.900	18.600
MW003	15/03/2017	Normal	ES1709078	0.810	0.740	2.510	0.190	3.700	<0.002	0.940	1.300	0.330	0.520	0.720	0.002	0.009	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	6.210	11.800
MW003	8/02/2018	Normal	EB1803820	1.930	1.770	8.680	0.370	7.760	<0.02	0.600	2.940	0.780	0.930	1.250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.170	<0.05	<0.05	16.400	27.200
MW003	3/04/2019	Normal	EB1908876	1.760	1.810	8.600	0.300	5.290	<0.02	0.500	3.190	0.860	0.780	1.220	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.160	<0.05	<0.05	13.900	24.500
MW003	1/04/2020	Normal	EB2009331	2.230	2.180	11.000	0.440	7.050	<0.03	0.300	4.280	1.070	1.360	1.410	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.03	<0.08	<0.03	<0.08	<0.05	<0.05	<0.03	<0.08	<0.05	0.150	<0.05	<0.05	18.000	31.500
MW003	16/04/2021	Normal	EB2110965	1.980	2.490	8.890	0.350	4.080	<0.02	0.500	4.380	1.100	1.330	1.670	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.160	<0.05	<0.05	13.000	26.900
MW003	19/04/2022	Normal	EB2211260	4.000	4.370	20.500	1.190	18.000	<0.02	0.700	6.110	1.470	2.710	1.810	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.06	<0.02	<0.06	<0.05	<0.05	<0.02	<0.06	<0.05	0.210	<0.05	<0.05	38.500	61.100
MW003	11/04/2023	Normal	EB2311390	3.870	4.220	17.100	0.700	12.300	<0.02	0.700	6.360	1.360	2.270	1.800	<0.02	0.040	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.190	<0.05	<0.05	29.400	50.900
MW004	7/02/2018	Normal	EB1803820	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW004	1/04/2019	Normal	EB1908876	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.010
MW004	1/04/2020	Normal	EB2009331	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.080	<0.05	<0.05	<0.01	0.080
MW004	16/04/2021	Normal	EB2110965	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.060	<0.05	<0.05	<0.01	0.060
MW004	19/04/2022	Normal	EB2211260	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW004	11/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW005	7/02/2018	Normal	EB1803820	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW005	1/04/2019	Normal	EB1908876	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW005	20/04/2022	Normal	EB2211260	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW005*	19/04/2023	Normal	EB2312082-BE	<0.02	<0.02	0.030	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.080	0.080
MW005*	19/04/2023	Field_D	EB2312082-BE	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.200	<0.05	<0.05	<0.01	0.200
MW005*	19/04/2023	Interlab_D	RN1391817	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.02	<0.01	0.100	<0.01	<0.01	<0.01	0.100
MW006	7/02/2018	Normal	EB1803820	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW006	2/04/2019	Normal	EB1908876	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW006	1/04/2020	Normal	EB2009331	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.780	<0.05	<0.05	<0.01	0.780
MW006	16/04/2021	Normal	EB2110965	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW006	20/04/2022	Normal	EB2211260	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW006	11/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW007	7/02/2018	Normal	EB1803820	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW007	2/04/2019	Normal	EB1908876	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW007	1/04/2020	Normal	EB2009331	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW007	16/04/2021	Normal	EB2110965	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.080	<0.05	<0.05	0.020	0.100
MW007	19/04/2022	Normal	EB2211260	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW007	11/04/2023	Normal	EB2311390	<0.02	<0.02	<0.01	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.010	0.010
MW008	7/02/2018	Normal	EB1803820	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW008	2/04/2019	Normal	EB1908876	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW008	1/04/2020	Normal	EB2009331	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW008	16/04/2021	Normal	EB2110965	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW008	19/04/2022	Normal	EB2211260	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW008	11/04/2023	Normal		Result unable to be reported due to laboratory error																														
MW009	15/03/2017	Normal	EB1713888	1.900	1.740	9.000	0.340	3.550	<0.02	0.200	2.510	0.600	0.820	0.830	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.170	<0.05	<0.05	12.600	21.700
MW009	15/03/2017	Normal	ES1709078	2.080	1.080	4.770	0.320	2.360	<0.002	1.180	1.950	0.540	0.710	1.590	<0.002	0.004	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	7.130	16.600
MW009	8/02/2018	Normal	EB1803820	1.110	0.950	4.420	0.200	3.620	<0.02	0.300	1.610	0.400	0.430	0.820	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.100	<0.05	<0.05	8.040	14.000
MW009	3/04/2019	Normal	EB1908876	0.830	0.750	3.760	0.160	3.120	<0.02	0.200	1.340	0.360	0.320	0.690	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.070	<0.05	<0.05	6.880	11.600
MW009	1/04/2020	Interlab_D	RN1270682	0.850	0.790	3.300	0.150	2.900	<0.01	0.250	1.400	0.390	0.470	0.680	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	<0.02	<0.01	0.085	<0.01	<0.01	-	-
MW009	1/04/2020	Normal	EB2009331	0.960	0.930	4.640	0.250	5.060	<0.03	<0.2	1.560	0.400	0.560	0.640	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.03	<0.08	<0.03	<0.08	<0.05	<0.05	<0.03	<0.08	<0.05	0.080	<0.05	<0.05	9.700	15.100
MW009	1/04/2020	Field_D	EB2009331	0.920	1.000	4.580	0.260	4.940	<0.03	<0.2	1.530	0.410	0.550	0.640	<0.03	<0.03	<0.03	<0.03	<0.08	<0.03	<0.03	<0.08	<0.03	<0.08	<0.05	<0.05	<0.03	<0.08	<0.05	0.100	<0.05	<0.05	9.520	14.900
MW009	16/04/2021	Normal	EB2110965	0.920	1.160	4.990	0.310	4.350	<0.02	0.200	1.790	0.440	0.640	0.830	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.080	<0.05	<0.05	9.340	15.700
MW009	19/04/2022	Normal	EB2211260	1.610	1.750	8.010	0.480	6.680	<0.02	0.200	2.340	0.570	1.010	0.720	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.090	<0.05	<0.05	14.700	23.500
MW009	11/04/2023	Normal	EB2311390	0.930	1.100	4.660	0.320	5.910	<0.02	0.200	1.360	0.390	0.610	0.500	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	10.600	16.000
MW010	15/03/2017	Normal	EB1713888	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
MW010	8/02/2018	Normal	EB1803820	0.030	0.020	0.120	<0.02	<0.01	<0.02	<0.1	0.040	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.120	0.210
MW010	1/04/2019	Normal	EB1908876	0.060	0.050	0.240	<0.02	0.060	<0.02	<0.1	0.100	0.020	0.010	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.300	0.580
MW010	1/04/2020	Normal	EB2009331	0.250	0.200	0.950	0.040	0.230	<0.02	<0.1	0.430	0.100	0.100	0.170	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.140	<0.05	<0.05	1.180	2.610
MW010	16/04/2021	Normal	EB2110965	0.270	0.250	0.730	0.020	0.110	<0.02	<0.1	0.480	0.120	0.110	0.200	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.840	2.290
MW010	19/04/2022	Interlab_D	RN1350928	0.230	0.200	0.710	<0.01	0.054	<0.01	0.071	0.410	0.083	0.069	0.180	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.01

Property ID	Location ID	Location	Sample Date	DO (mg/L) *Field measure-ment*	EC (µS/cm) *Field measure-ment*	pH *Field measure-ment*	E_r (mV) *Field measure-ment*	E_h (mV)	Temp (°C) *Field measure-ment*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	SW004	Oakey Creek	13/04/2021	6.96	808	7.99	71.6	276.6	21.7	Medium	Clear	ght organic od	No sheen	Grab sample
0207	SW004	Oakey Creek	14/04/2022	8.080	1055.000	8.230	118.300	323	23.300	Medium	Clear	No odour	No sheen	Grab sample
0207	SW004	Oakey Creek	15/03/2023	5.750	927.000	8.110	36.400	241	24.900	Medium	Clear	No odour	No sheen	Grab sample
0207	SW009	Drain 2	13/04/2021	5.62	228.3	7.7	142.9	347.9	21.1	Medium	Clear	ght organic od	No sheen	Grab sample
0207	SW009	Drain 2	18/04/2022	4.880	94.800	8.920	82.700	288	18.100	Medium	Clear	No odour	No sheen	Grab sample
0207	SW009	Drain 2	15/03/2023	3.230	93.100	8.050	27.700	233	22.400	Low	Clear	No odour	No sheen	Grab sample
0207	SW010	Oakey Creek	13/04/2021	3.4	218.3	7.07	124.1	329.1	23.5	Low	Clear	No odour	No sheen	Grab sample
0207	SW010	Oakey Creek	16/04/2022	3.660	365.600	7.560	107.600	313	20.600	Medium	Clear	No odour	No sheen	Grab sample
0207	SW010	Oakey Creek	15/03/2023	5.660	972.000	8.050	38.800	244	24.800	Medium	Clear	No odour	No sheen	Grab sample
0207	SW011	Oakey Creek	13/04/2021	1.62	194.4	6.8	134.9	339.9	20.9	Medium	Clear	No odour	Biosheen appearance	Grab sample
0207	SW011	Oakey Creek	15/04/2022	2.980	386.300	7.340	132.300	337	22.400	Medium	Clear	No odour	No sheen	Grab sample
0207	SW011	Oakey Creek	15/03/2023	4.870	927.000	8.060	49.500	255	24.300	Medium	Clear	No odour	No sheen	Grab sample
0207	SW012	Oakey Creek	13/04/2021	4.64	181.5	7.32	128.2	333.2	28.0	Medium	Clear	No odour	No sheen	Grab sample
0207	SW012	Oakey Creek	15/04/2022	1.970	417.600	7.590	131.800	337	21.400	Medium	Clear	No odour	No sheen	Grab sample
0207	SW012	Oakey Creek	15/03/2023	4.640	637.000	8.130	75.300	280	24.700	Medium	Clear	No odour	No sheen	Grab sample
0207	SW013	Oakey Creek	13/04/2021	1.88	169	7.21	93.9	298.9	22.5	Medium	Clear	ght organic od	No sheen	Grab sample
0207	SW013	Oakey Creek	16/04/2022	3.260	470.000	7.820	118.000	323	21.800	Medium	Brown	No odour	No sheen	Grab sample
0207	SW013	Oakey Creek	15/03/2023	3.710	573.000	8.340	5.400	210	26.300	Medium	Clear	No odour	No sheen	Grab sample
0207	SW019	Drain 3	23/03/2021	-	-	-	-	-	-	-	-	-	-	Grab samples. No quality parameter field measurements were collected as a functional water quality meter was not available.
0207	SW019	Drain 3	22/03/2022	8.160	180.600	8.380	21.900	227	24.300	Medium	Clear	No odour	No sheen	Grab sample
0207	SW019	Drain 3	15/03/2023	0.200	1790.000	7.630	47.600	253	34.900	Low	Clear	No odour	No sheen	Grab sample
0207	SW021	Drain 3	23/03/2021	-	-	-	-	-	-	-	-	-	-	
0207	SW021	Drain 3	22/03/2022	0.680	349.900	7.310	16.000	221	28.900	Medium	Clear	No odour	No sheen	Grab sample
0207	SW021	Drain 3	15/03/2023	3.820	82.700	7.760	57.000	262	26.000	Low	Clear	No odour	No sheen	Grab sample
0207	SW024	Drain 2	23/03/2021	-	-	-	-	-	-	-	-	-	-	
0207	SW024	Drain 2	22/03/2022	9.680	138.100	7.710	10.400	215	27.000	Low	Clear	No odour	Biosheen	Grab sample
0207	SW024	Drain 2	15/03/2023	2.360	131.400	7.480	39.000	244	26.900	Low	Clear	No odour	No sheen	Grab sample
0207	SW025	Drain 2	23/03/2021	-	-	-	-	-	-	-	-	-	-	
0207	SW025	Drain 2	22/03/2022	14.780	171.700	8.840	-5.300	200	28.600	Medium	Clear	No odour	No sheen	Grab sample
0207	SW025	Drain 2	15/03/2023	3.920	224.100	7.350	89.100	294	26.300	Low	Clear	No odour	No sheen	Grab sample
0207	SW026	Drain 1	23/03/2021	-	-	-	-	-	-	-	-	-	-	
0207	SW026	Drain 1	22/03/2022	5.920	175.800	7.740	4.900	210	26.000	Turbid	Clear	No odour	Biosheen	Grab sample
0207	SW026	Drain 1	15/03/2023	0.500	179.200	7.530	13.300	218	23.400	Low	Clear	No odour	No sheen	Grab sample
0207	SW027	Drain 2	23/03/2021	-	-	-	-	-	-	-	-	-	-	
0207	SW027	Drain 2	22/03/2022	4.070	153.000	7.870	-2.400	203	25.200	Low	Clear	No odour	Biosheen	Grab sample
0207	SW027	Drain 2	15/03/2023	0.200	93.500	7.370	-12.400	193	23.400	Low	Clear	No odour	No sheen	Grab sample
0207	SW032	Oakey Creek	15/04/2021	2.4	529.5	7.79	28.3	233.3	23.6	Medium	Clear	ght organic od	No sheen	Grab sample
0207	SW032	Oakey Creek	13/04/2022	4.690	576.000	7.900	117.100	322	23.000	Clear	Brown	No odour	No sheen	Grab sample
0207	SW032	Oakey Creek	-	-	-	-	-	-	-	-	-	-	-	Not collected due to unsafe access.
0207	SW040	Oakey Creek	12/04/2021	3.68	247.2	7.02	48.4	253.4	22.1	Medium	Clear	No odour	No sheen	Grab sample
0207	SW040	Oakey Creek	22/03/2022	4.490	709.000	7.860	2.600	208	25.200	Medium	Clear	No odour	No sheen	Grab sample
0207	SW040	Oakey Creek	19/04/2023	4.520	293.300	7.940	97.700	303	20.200	High	Brown	No odour	No sheen	Grab sample
0207	SW043	Doctor Creek	12/04/2021	8.71	449.8	7.71	84.9	289.9	28.9	Turbid	Brown	No odour	No sheen	Grab sample
0207	SW043	Doctor Creek	22/03/2022	6.740	444.200	7.950	2.700	208	29.000	Turbid	Clear	No odour	Biosheen	Grab sample
0207	SW043	Doctor Creek	19/04/2023	4.330	409.100	7.680	92.600	298	20.400	High	Brown	No odour	No sheen	Grab sample
0207	SW056	Oakey Creek	15/04/2021	4.94	457	7.81	80.1	285.1	26.9	Medium	Clear	ght organic od	No sheen	Grab sample
0207	SW056	Oakey Creek	15/04/2022	4.140	516.000	8.580	100.400	305	19.700	Clear	Clear	No odour	No sheen	Grab sample
0207	SW056	Oakey Creek	18/04/2023	4.390	305.700	7.680	80.800	286	22.300	High	Brown	No odour	No sheen	Grab sample
0207	SW057	Drain 3	13/04/2022	-	-	-	-	-	-	-	-	-	-	Grab sample. Field parameter data lost due to EDCA fault.
0207	SW057	Drain 3	18/04/2023	5.190	254.200	8.010	85.600	-	23.100	High	Brown	No odour	No sheen	Grab sample
0207	SW059	Oakey Creek	20/04/2021	6.54	1302	7.9	90.3	295.3	21.5	Clear	Clear	ght organic od	No sheen	Grab sample
0207	SW059	Oakey Creek	13/04/2022	8.550	1055.000	8.010	94.700	300	24.000	Clear	Clear	No odour	No sheen	Grab sample
0207	SW059	Oakey Creek	-	-	-	-	-	-	-	-	-	-	-	Not collected due to unsafe access.
0207	SW063	Drain 3	23/03/2021	-	-	-	-	-	-	-	-	-	-	Grab samples. No quality parameter field measurements were collected as a functional water quality meter was not available.
0207	SW063	Drain 3	22/03/2022	-	-	-	-	-	-	Turbid	Clear	No odour	No sheen	Grab sample. Insufficient water for parameter measurements.
0207	SW063	Drain 3	15/03/2023	0.500	152.600	7.720	80.200	-	30.100	High	Clear	No odour	No sheen	Grab sample
0207	SW065	Drain 1	23/03/2021	-	-	-	-	-	-	-	-	-	-	Grab sample
0207	SW065	Drain 1	22/03/2022	1.000	231.300	7.940	-98.600	106	22.800	Medium	Clear	No odour	No sheen	Grab sample
0207	SW065	Drain 1	-	-	-	-	-	-	-	-	-	-	-	Dry
0207	SW066	Drain 1	23/03/2021	-	-	-	-	-	-	-	-	-	-	Grab sample
0207	SW066	Drain 1	22/03/2022	3.480	176.100	7.280	-21.600	183	23.700	Low	Clear	No odour	No sheen	Grab sample
0207	SW066	Drain 1	19/04/2023	3.790	159.100	6.740	86.900	292	27.200	High	Brown	No odour	No sheen	Grab sample
0207	SW087	Westbrook Creek	16/04/2022	8.940	1016.000	8.320	96.800	302	21.100	Medium	Clear	No odour	No sheen	Grab sample
0207	SW087	Westbrook Creek	15/04/2021	8.87	1127	9.18	87.5	292.5	21.7	Low	Clear	ght organic od	No sheen	Grab sample
0207	SW087	Westbrook Creek	15/03/2023	5.370	1044.000	8.210	62.800	268	23.700	Medium	Clear	No odour	No sheen	Grab sample

DO is dissolved oxygen
EC is electrical conductivity
E_h is oxidation reduction potential
Oxidation reducation potential (E_r) measured with a platinum electrode and a silver/silver chloride reference electrode (E_r) and converted to E_h by $E_h = E_r + 205$ mV (based on a groundwater temperature of 21°C)
Temp is Temperature
µS/cm is microsiemens per centrimetre
ºC is degrees Celcius
mV is millivolts

	PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR	0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%					0.00023						19																				
PFAS NEMP 2020 Recreational Water											**10**																			**2**	

Location Code	Date	Sample Type	Lab Report																												
SW001	23/05/2014	Normal	EB1412619	-	-	-	-	0.120	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW001	23/05/2014	Field_D	EB1412619	-	-	-	-	0.160	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW002	21/05/2014	Normal	EB1412441	-	-	-	-	0.140	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW003	21/05/2014	Normal	EB1412441	-	-	-	-	0.080	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW004	27/05/2014	Normal	EB1412900	-	-	-	-	0.400	-	-	-	-	-	0.040	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW004	9/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW004	1/02/2017	Normal	EB1702117	<0.02	<0.02	0.020	<0.02	0.020	<0.02	<0.1	0.030	0.020	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.040	0.120
SW004	20/04/2018	Normal	EB1809892	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	0.030	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.010	0.080
SW004	8/04/2019	Normal	EB1909663	0.016	-	0.011	-	0.013	-	<0.002	0.022	0.021	0.004	0.012	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	0.024	-
SW004	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	0.020	<0.02	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.020	0.060
SW004	13/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.01	<0.01
SW004	14/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	<0.02	<0.02
SW004	15/03/2023	Normal	EB2308035	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW005	21/05/2014	Normal	EB1412441	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW005	1/02/2017	Normal	EB1702117	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	0.040	0.030	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.030	0.140
SW006	27/05/2014	Normal	EB1412900	-	-	-	-	0.030	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW007	26/05/2014	Normal	EB1412900	-	-	-	-	0.100	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW008	27/08/2014	Normal	EB1441408	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW009	27/08/2014	Normal	EB1441408	-	-	-	-	1.660	-	-	-	-	-	0.080	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
SW009	26/09/2014	Normal	EB1443316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW009	26/09/2014	Normal	EB1443316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW009	26/09/2014	Normal	EB1444580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW009	1/02/2017	Normal	EB1702117	0.140	0.080	0.600	0.040	1.580	<0.02	<0.1	0.110	0.160	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	**2.180**	2.800
SW009	8/04/2019	Normal	EB1909637	0.171	-	0.325	-	0.678	-	0.092	0.044	0.134	0.020	0.040	-	-	-	-	-	-	-	<0.001	<0.001	0.002	<0.001	-	-	-	-	-	1.000	-
SW009	13/04/2021	Normal	EB2110967	0.050	0.040	0.270	<0.02	0.630	<0.02	<0.1	0.040	0.080	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.900	1.130
SW009	16/04/2022	Field_D	EB2211261-AA	0.030	0.020	0.190	<0.02	0.560	<0.02	<0.1	<0.02	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.750	0.880
SW009	18/04/2022	Normal	EB2211261-AA	0.030	<0.02	0.180	<0.02	0.590	<0.02	<0.1	<0.02	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.06	<0.02	<0.06	<0.06	0.770	0.850
SW009	18/04/2022	Interlab_D	RN1350926	0.029	0.023	0.180	<0.01	0.520	<0.01	<0.05	0.025	0.054	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW009	15/03/2023	Normal	EB2308035	0.040	0.020	0.240	<0.02	0.900	<0.02	<0.1	<0.02	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.140	1.270
SW010	29/10/2014	Normal	EB1445388	-	-	-	-	0.790	-	-	-	-	-	0.040	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW010	9/08/2015	Normal	EB1525621	-	-	-	-	0.250	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW010	1/02/2017	Normal	EB1702117	0.050	0.020	0.100	<0.02	0.350	<0.02	<0.1	0.040	0.050	<0.02	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.070	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.450	0.770
SW010	20/04/2018	Normal	EB1809892	<0.02	<0.02	<0.02	<0.02	0.100	<0.02	<0.1	<0.02	<0.02	<0.02	0.040	<0.02	<0.02	0.020	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.100	0.160
SW010	8/04/2019	Normal	EB1909636	0.039	-	0.107	-	0.189	-	0.037	0.012	0.040	0.005	0.011	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	0.296	-
SW010	13/04/2021	Normal	EB2110967	<0.02	<0.02	0.050	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.140	0.150
SW010	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.020	0.020
SW010	15/03/2023	Normal	EB2308035	<0.02	<0.02	0.040	<0.02	0.090	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.06	<0.02	<0.06	<0.06	0.130	0.130
SW011	29/10/2014	Normal	EB1445388	-	-	-	-	0.070	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW011	9/08/2015	Normal	EB1525621	-	-	-	-	0.140	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW011	29/03/2016	Normal	EB1608609	<0.02	-	<0.02	-	0.060	<0.02	-	-	0.040	0.030	0.170	0.020	0.090	<0.02	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	-	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	0.060	-
SW011	29/03/2017	Normal	EB1706401	0.060	0.030	0.260	<0.02	0.510	<0.02	<0.1	<0.02	0.090	<0.02	0.030	<0.02	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.770	1.010
SW011	20/04/2018	Normal	EB1809892	<0.02	<0.02	0.060	<0.02	0.210	<0.02	<0.1	<0.02	0.030	<0.02	0.030	<0.02	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.270	0.380
SW011	20/04/2018	Interlab_D	AECO06_180424	0.013	<0.01	0.056	<0.01	0.180	<0.01	<0.05	<0.02	0.023	<0.01	0.019	<0.01	0.055	<0.01	0.011	<0.02	<0.02	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW011	20/04/2018	Field_D	EB1809892	<0.02	<0.02	0.070	<0.02	0.220	<0.02	<0.1	<0.02	0.030	<0.02	0.030	<0.02	0.060	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.290	0.410
SW011	8/04/2019	Normal	EB1909636	0.028	-	0.089	-	0.187	-	0.029	0.009	0.032	0.004	0.009	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	0.276	-
SW011	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.050	0.050
SW011	13/04/2021	Normal	EB2110967	0.040	0.030	0.150	<0.02	0.320	<0.02	<0.1	0.030	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.470	0.650
SW011	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.01	<0.01
SW011	15/03/2023	Normal	EB2308035	<0.02	<0.02	0.110	<0.02	0.120	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.230	0.230
SW012	29/10/2014	Normal	EB1445388	-	-	-	-	0.210	-	-	-	-	-	0.060	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW012	29/10/2014	Interlab_D	437530	-	-	-	-	0.170	-	-	-	-	-	0.080	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-
SW012	29/10/2014	Field_D	EB1445388	-	-	-	-	0.290	-	-	-	-	-	0.070	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW012	1/02/2017	Normal	EB1702117	0.050	<0.02	0.080	<0.02	0.240	<0.02	<0.1	0.050	0.060	0.030	0.190	0.040	0.200	0.020	0.150	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.320	1.110
SW012	20/04/2018	Normal	EB1809892	0.070	0.030	0.260	<0.02	0.630	<0.02	<0.1	0.040	0.100	<0.02	0.030	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.890	1.180
SW012	8/04/2019	Normal	EB1909637	0.018	-	0.050	-	0.134	-	0.029	0.004	0.019	0.002	0.005	-	-	-	-	-	-	-	<0.001	0.001	<0.001	<0.001	-	-	-	-	-	0.184	-
SW012	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.01	<0.01
SW012	23/03/2020	Interlab_D	RN1271386	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW012	23/03/2020	Field_D	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.01	<0.01		
SW012	13/04/2021	Normal	EB2110967	0.050	0.030	0.210	<0.02	0.570	<0.02	<0.1	0.040	0.080	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.780	1.000
SW012	15/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.01	<0.01		
SW012	15/03/2023	Normal	EB2308035	<0.05	<0.05	<0.05	<0.05	0.120	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	0.120	0.120
SW013	29/10/2014	Normal	EB1445388	-	-	-	-	1.260	-	-	-	-	-	0.060	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW013	9/08/2015	Normal	EB1525621	<0.02	-	0.110	-	0.430	<0.02	-	-	0.060	<0.02	<0.02	0.020	<0.02	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	-	-	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	0.540	-
SW013	9/08/2015	Interlab_D	468674	<0.01	-	0.030	-	0.020	<0.01	-	0.010	0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	0.050	-
SW013	9/08/2015	Field_D	EB1525621	<0.02	-	0.160	-	0.500	<0.02	-	-	0.060	<0.02	<0.02	0.040	<0.02	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	-	-	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	0.660	-
SW013	5/11/2015	Normal	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW013	5/11/2015	Interlab_D	478996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW013	5/11/2015	Field_D	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW013	9/02/2016	Normal	EB1603675	-	-	-	-	0.470	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW013	9/02/2016	Normal	EB1603670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW013	30/03/2016	Normal	EB1608609	0.090	-	0.240	-	0.360	<0.02	-	-	0.110	0.040	0.060	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	-	-	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	0.600	-
SW013	30/03/2016	Interlab_D	495205	0.050	-	0.140	-	0.220	<0.01	<0.05	0.030	0.090	0.010	0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	0.360	-
SW013	30/03/2016	Field_D	EB1608609	0.070	-	0.420	-	0.430	<0.02	-	-	0.110	<0.02	0.080	<0.02	<0.02	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	-	-	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	0.850	-
SW013	3/05/2016	Normal	EB1611799	-	-	-	-	0.700	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-
SW013	3/05/2016	Normal	EB1611802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW013	1/02/2017	Normal	EB1702117	0.090	0.040	0.220	0.020	0.600	<0.02	<0.1	0.060	0.100	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.820	1.150
SW013	20/04/2018	Normal	EB1809892	0.080	0.050	0.260	<0.02	0.720	<0.02	<0.1	0.040	0.100	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.980	1.280
SW013	8/04/2019	Normal	EB1909637	0.007	-	0.022	-	0.075	-	0.035	<0.0005	0.008	0.001	0.002	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	0.097	-
SW013	23/03/2020	Normal	EB2008693	<0.02	<0.02	0.040	<0.02	0.450	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.490	0.490
SW013	13/04/2021	Normal	EB2110967	0.040	0.030	0.180	<0.02	0.560	<0.02	<0.1	0.030	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.740	0.930
SW013	13/04/2021	Interlab_D	RN1312932	0.049	0.029	0.180	0.011	0.530	<0.01	<0.05	0.031	0.063	<0.01	0.016	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW013	13/04/2021	Field_D	EB2110967	0.040	0.030	0.170	<0.02	0.550	<0.02	<0.1	0.030	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.720	0.910
SW013	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.01	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.040	0.040
SW013	15/03/2023	Interlab_D	RN1387358	0.038	0.023	0.150	<0.01	0.480	<0.01	<0.05	<0.02	0.058	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	0.630	0.760
SW013	15/03/2023	Normal	EB2308035	0.040	<0.02	0.190	<0.02	0.600	<0.02	<0.1	<0.02	0.080	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.790	0.920
SW013	15/03/2023	Field_D	EB2308035	0.040	0.020	0.170	<0.02	0.500	<0.02	<0.1	<0.02	0.060	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.670	0.790
SW014	29/10/2014	Normal	EB1445388	-	-	-	-	0.280	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW014	11/08/2015	Normal	EB1525621	-	-	-	-	0.160	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW014	2/02/2017	Normal	EB1702117	0.050	0.030	0.150	<0.02	0.280	<0.02	<0.1	0.040	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	0.430	0.630
SW015	29/10/2014	Normal	EB1445388	-	-	-	-	1.430	-	-	-	-	-	0.140	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%								0.00023						19																		
PFAS NEMP 2020 Recreational Water														**10**																	**2**	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SW016	1/02/2017	Normal	EB1702117	0.060	0.020	0.150	<0.02	0.340	<0.02	<0.1	0.040	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.490	0.670
SW017	17/11/2014	Normal	EB1446505	-	-	-	-	0.600	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW018	17/11/2014	Normal	EB1446505	-	-	-	-	1.570	-	-	-	-	-	0.030	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW018	17/11/2014	Interlab_D	439475	-	-	-	-	2.300	-	-	-	-	-	0.080	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-
SW018	17/11/2014	Field_D	EB1446505	-	-	-	-	1.270	-	-	-	-	-	0.040	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW018	1/02/2017	Normal	EB1702117	0.090	0.040	0.240	<0.02	0.580	<0.02	<0.1	0.060	0.110	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.820	1.140
SW018	1/02/2017	Interlab_D	AECO06_170207	0.047	-	0.210	-	0.300	<0.02	<0.05	<0.02	0.066	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	-	-	-	-	<0.02	-	-	-	-	-	-	0.510	-
SW018	1/02/2017	Field_D	EB1702117	0.100	0.050	0.220	<0.02	0.550	<0.02	<0.1	0.060	0.110	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.770	1.110
SW019	16/12/2014	Normal	ES1428296	-	-	-	-	0.750	-	-	-	-	-	0.320	-	-	-	-	-	-	-	0.400	0.200	-	-	-	-	-	-	-	-	-	-
SW019	9/02/2016	Normal	EB1603670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW019	9/02/2016	Normal	EB1603675	-	-	-	-	0.780	-	-	-	-	-	0.230	-	-	-	-	-	-	-	0.500	1.400	-	-	-	-	-	-	-	-	-	-
SW019	20/02/2017	Normal	EB1703569	<0.02	<0.02	0.110	<0.02	0.290	<0.02	<0.1	0.190	0.240	0.260	0.520	0.470	0.500	0.380	0.220	0.040	<0.05	<0.05	0.440	0.770	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.400	4.430
SW019	25/02/2020	Normal	EB2005415	0.060	0.030	0.330	<0.02	0.740	<0.02	<0.10	0.050	0.070	<0.02	0.050	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.070	1.360
SW019	23/03/2021	Normal	EB2108522	0.020	<0.02	0.110	<0.02	0.300	<0.02	<0.1	0.060	0.100	0.040	0.060	0.050	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.070	0.130	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.410	0.980
SW019	9/07/2021	Normal	EB2120796	0.060	0.040	0.320	0.020	0.520	<0.02	<0.1	0.100	0.220	0.080	0.100	0.070	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.080	0.110	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.840	1.760
SW019	9/07/2021	Normal	EB2120796	0.050	0.040	0.310	0.020	0.510	<0.02	0.100	0.110	0.240	0.090	0.100	0.080	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.100	0.100	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.820	1.890
SW019	9/07/2021	Normal	EB2120796	0.050	0.040	0.320	0.030	0.500	<0.02	<0.1	0.100	0.210	0.080	0.090	0.070	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.070	0.080	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.820	1.680
SW019	9/07/2021	Normal	EB2120796	0.030	0.030	0.240	0.020	0.520	<0.02	0.100	0.150	0.310	0.120	0.140	0.110	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	0.060	0.060	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.760	1.940
SW019	9/07/2021	Normal	EB2120071	0.040	0.030	0.270	0.020	0.460	<0.02	0.200	0.180	0.370	0.140	0.150	0.110	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.730	2.010
SW019	9/07/2021	Normal	EB2120071	0.040	0.030	0.240	<0.02	0.470	<0.02	0.200	0.170	0.360	0.150	0.140	0.120	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.710	1.970
SW019	9/07/2021	Normal	EB2120796	0.020	0.020	0.210	<0.02	0.440	<0.02	<0.1	0.120	0.230	0.100	0.110	0.080	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.050	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.650	1.420
SW019	9/07/2021	Normal	EB2120796	0.020	0.020	0.200	<0.02	0.350	<0.02	0.100	0.130	0.260	0.100	0.120	0.080	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.550	1.420
SW019	9/07/2021	Normal	EB2120796	0.020	<0.02	0.170	<0.02	0.360	<0.02	0.100	0.120	0.250	0.100	0.100	0.080	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.050	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.530	1.390
SW019	9/07/2021	Normal	EB2120796	<0.02	<0.02	0.160	<0.02	0.340	<0.02	0.100	0.130	0.250	0.100	0.110	0.090	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.500	1.320
SW019	9/07/2021	Interlab_D	RN1323090	0.034	0.027	0.250	0.014	0.370	<0.01	0.160	0.160	0.300	0.140	0.140	0.100	0.034	<0.01	<0.01	<0.02	<0.02	<0.01	0.024	0.012	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW019	9/07/2021	Field_D	EB2120071	0.030	0.020	0.230	<0.02	0.440	<0.02	0.100	0.160	0.340	0.140	0.140	0.110	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.670	1.760
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.090	<0.02	0.340	<0.02	<0.1	0.060	0.080	0.050	0.080	0.060	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	0.100	0.240	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.430	1.150
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.120	<0.02	0.300	<0.02	<0.1	0.070	0.090	0.060	0.090	0.070	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	0.130	0.300	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.420	1.280
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.080	<0.02	0.320	<0.02	<0.1	0.060	0.090	0.060	0.070	0.060	0.050	0.020	<0.02	<0.02	<0.05	<0.05	0.100	0.240	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.400	1.150
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.090	<0.02	0.310	<0.02	<0.1	0.060	0.080	0.060	0.070	0.060	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	0.100	0.240	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.400	1.120
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.070	<0.02	0.330	<0.02	<0.1	0.050	0.070	0.040	0.060	0.050	0.040	0.040	0.030	<0.02	<0.05	<0.05	0.070	0.230	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.400	1.080
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.100	<0.02	0.290	<0.02	<0.1	0.060	0.080	0.060	0.080	0.060	0.050	0.020	<0.02	<0.02	<0.05	<0.05	0.100	0.240	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.390	1.140
SW019	14/10/2021	Normal	EB2129260	0.020	<0.02	0.100	<0.02	0.280	<0.02	<0.1	0.080	0.090	0.060	0.090	0.080	0.060	0.020	<0.02	<0.02	<0.05	<0.05	0.120	0.260	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.380	1.260
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.080	<0.02	0.300	<0.02	<0.1	0.050	0.080	0.050	0.080	0.060	0.050	<0.02	<0.02	<0.02	<0.05	<0.05	0.090	0.290	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.380	1.130
SW019	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.060	<0.02	0.280	<0.02	<0.1	0.050	0.070	0.040	0.060	0.050	0.040	0.020	<0.02	<0.02	<0.05	<0.05	0.070	0.190	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.340	0.930
SW019	14/10/2021	Interlab_D	RN1332380	<0.01	<0.01	0.080	<0.01	0.260	<0.01	<0.05	0.055	0.072	0.052	0.080	0.056	0.049	0.015	<0.01	<0.02	<0.02	<0.01	0.081	0.200	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW019	11/11/2021	Normal	EB2133180	0.040	0.030	0.170	<0.02	0.610	<0.02	<0.1	<0.10	0.060	0.030	0.030	0.040	0.020	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.780	1.030
SW019	11/11/2021	Normal	EB2133180	0.030	0.020	0.170	<0.02	0.450	<0.02	<0.1	0.090	0.110	0.090	0.090	0.080	0.060	0.020	<0.02	<0.02	<0.05	<0.05	<0.05	0.220	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.620	1.430
SW019	11/11/2021	Normal	EB2133180	0.040	0.030	0.150	<0.02	0.460	<0.02	<0.1	0.070	0.080	0.040	0.050	0.040	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.060	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.610	1.050
SW019	11/11/2021	Normal	EB2133180	0.030	0.020	0.110	<0.02	0.350	<0.02	<0.1	0.060	0.070	0.040	0.050	0.040	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.080	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.460	0.880
SW019	11/11/2021	Normal	EB2133180	<0.02	<0.02	0.100	<0.02	0.320	<0.02	<0.1	0.060	0.090	0.080	0.090	0.080	0.060	0.030	<0.02	<0.02	<0.05	<0.05	0.060	0.210	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.420	1.180
SW019	11/11/2021	Normal	EB2133180	0.020	<0.02	0.100	<0.02	0.320	<0.02	<0.1	0.060	0.080	0.050	0.050	0.050	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.110	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.420	0.880
SW019	11/11/2021	Normal	EB2133180	<0.02	<0.02	0.090	<0.02	0.260	<0.02	<0.1	0.070	0.080	0.060	0.070	0.060	0.040	<0.02	<0.02	<0.02	<0.05	<0.05	0.050	0.170	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.350	0.950
SW019	11/11/2021	Normal	EB2133180	0.020	<0.02	0.100	<0.02	0.220	<0.02	<0.1	<0.08	0.040	0.030	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.320	0.470
SW019	11/11/2021	Interlab_D	RN1335319	0.019	0.014	0.096	<0.01	0.210	<0.01	0.056	0.043	0.040	0.023	0.027	0.028	0.013	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW019	11/11/2021	Field_D	EB2133180	0.020	<0.02	0.100	<0.02	0.230	<0.02	<0.1	0.070	0.040	0.030	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.330	0.550
SW019	12/11/2021	Normal	EB2133180	0.040	0.030	0.180	0.020	0.560	<0.02	<0.1	0.070	0.090	0.040	0.050	0.040	0.040	0.020	<0.02	<0.02	<0.05	<0.05	0.080	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.740	1.260
SW019	12/11/2021	Normal	EB2133180	0.040	0.030	0.160	<0.02	0.460	<0.02	<0.1	0.070	0.080	0.040	0.050	0.040	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.620	1.000
SW019	30/11/2021	Normal	EB2135913	0.050	0.020	0.150	<0.02	0.360	<0.02	<0.1	0.050	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.510	0.700
SW019	30/11/2021	Normal	EB2135913	0.040	0.020	0.120	<0.02	0.350	<0.02	<0.1	0.030	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.470	0.620
SW019	30/11/2021	Normal	EB2135913	0.030	<0.02	0.100	<0.02	0.330	<0.02	<0.1	0.030	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.430	0.540
SW019	30/11/2021	Normal	EB2135913	0.030	0.020	0.120	<0.02	0.260	<0.02	<0.1	0.030	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.380	0.540
SW019	30/11/2021	Normal	EB2135913	<0.02	<0.02	0.070	<0.02	0.190	<0.02	<0.1	0.030	0.040	<0.02	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.260	0.380
SW019	30/11/2021	Interlab_D	RN1337439	0.032	0.013	0.130	<0.01	0.310	<0.01	0.063	0.035	0.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW019	30/11/2021	Interlab_D	RN1337439	0.011	<0.01	0.064	<0.01	0.170	<0.01	<0.05	0.024	0.027	0.016	0.021	0.025	0.013	0.011	<0.01	<0.02	<0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW019	30/11/2021	Field_D	EB2135913	0.050	0.020	0.140	<0.02	0.310	<0.02	<0.1	<0.06	0.060	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.450	0.590
SW019	30/11/2021	Field_D	EB2135913	<0.02	<0.02	0.080	<0.02	0.210	<0.02	<0.1	<0.06	0.050	0.020	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.290	0.420
SW019	1/12/2021	Normal	EB2135913	0.040	0.020	0.120	<0.02	0.320	<0.02	<0.1	0.050	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.440	0.610
SW019	1/12/2021	Normal	EB2135913	0.020	<0.02	0.060	<0.02	0.200	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.260	0.310
SW019	1/12/2021	Normal	EB2135913	0.020	<0.02	0.060	<0.02	0.180	<0.02	<0.1	<0.04	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.240	0.290
SW019	1/12/2021	Normal	EB2135913	0.020	<0.02	0.060	<0.02	0.180	<0.02	<0.1	<0.04	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.240	0.290
SW019	1/12/2021	Normal	EB2135913	0.020	<0.02	0.070	<0.02	0.170	<0.02	<0.1	0.030	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.240	0.320
SW019	18/03/2022	Normal	EB2208035	0.040	0.020	0.160	<0.02	0.390	<0.02	<0.1	<0.05	0.080	0.020	0.050	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.550	0.780
SW019	15/03/2023	Normal	EB2308035	<0.06	<0.05	0.360	<0.05	0.750	<0.05	<0.2	<0.05	0.100	<0.05	0.080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	1.110	1.290
SW020	16/12/2014	Normal	ES1428296	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW021	16/12/2014	Normal	ES1428296	-	-	-	-	0.520	-	-	-	-	-	0.840	-	-	-	-	-	-	-	2.300	0.300	-	-	-	-	-	-	-	-	-	-
SW021	16/12/2014	Interlab_D	443042	-	-	-	-	0.110	-	-	-	-	-	0.640	-	-	-	-	-	-	-	0.570	0.810	-	-	-	-	-	-	-	-	-	-
SW021	16/12/2014	Field_D	ES1428296	-	-	-	-	0.590	-	-	-	-	-	0.630	-	-	-	-	-	-	-	2.500	0.400	-	-	-	-	-	-	-	-	-	-
SW021	12/08/2015	Normal	EB1525621	-	-	-	-	0.560	-	-	-	-	-	**15.500**	-	-	-	-	-	-	-	27.800	7.200	-	-	-	-	-	-	-	-	-	-
SW021	9/02/2016	Normal	EB1603675	-	-	-	-	0.470	-	-	-	-	-	2.960	-	-	-	-	-	-	-	6.800	7.900	-	-	-	-	-	-	-	-	-	-
SW021	3/05/2016	Normal	EB1611802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW021	3/05/2016	Normal	EB1611799	<0.02	<0.02	0.100	<0.02	0.480	<0.02	<0.1	0.860	2.440	2.960	4.250	10.400	15.200	0.870	0.300	0.300	0.080	<0.05	22.600	24.600	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.580	<0.01
SW021	3/05/2016	Interlab_D	499670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW021	3/05/2016	Interlab_D	499669	-	-	-	-	0.430	-	-	-	-	-	7.900	-	-	-	-	-	-	-	24.000	28.000	-	-	-	-	-	-	-	-	-	-
SW021	3/05/2016	Field_D	EB1611802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW021	3/05/2016	Field_D	EB1611799	-	-	-	-	0.420	-	-	-	-	-	4.370	-	-	-	-	-	-	-	21.500	21.800	-	-	-	-	-	-	-	-	-	-
SW021	20/02/2017	Normal	EB1703569	<0.02	<0.02	0.130	<0.02	0.690	<0.02	0.400	1.030	1.350	1.580	4.080	3.710	3.150	3.320	1.710	0.130	<0.05	<0.05	3.270	5.850	0.060	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.820	30.500
SW021	22/03/2017	Normal	EB1705908	0.020	0.020	0.230	0.030	0.730	<0.02	1.000	3.630	5.280	5.970	**10.100**	9.450	5.920	0.290	0.020	<0.02	<0.05	<0.05	10.600	9.860	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.960	63.200
SW021	22/03/2017	Interlab_D	AECO06_170328	0.014	-	0.160	-	1.200	<0.02	0.950	2.500	3.000	3.900	7.700	6.900	7.600	2.300	0.430	0.130	<0.05	-	10.000	8.900	-	<0.02	-	-	-	-	-	-	1.360	-
SW021	22/03/2017	Field_D	EB1705908	0.020	0.020	0.210	0.030	0.770	<0.02	1.100	3.680	5.220	6.020	**11.700**	9.360	6.100	0.260	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%								0.00023						19																		
PFAS NEMP 2020 Recreational Water														**10**																	**2**	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SW024	9/02/2016	Interlab_D	489125	-	-	-	-	0.310	-	-	-	-	-	<0.04	-	-	-	-	-	-	-	<0.2	<0.04	-	-	-	-	-	-	-	-	-	-
SW024	9/02/2016	Field_D	EB1603675	-	-	-	-	0.680	-	-	-	-	-	0.020	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW024	3/05/2016	Normal	EB1611802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW024	3/05/2016	Normal	EB1611799					1.330						0.040								<0.05	<0.05										
SW024	20/02/2017	Normal	EB1703569	<0.02	<0.02	0.080	<0.02	0.330	<0.02	<0.1	<0.02	0.020	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.410	0.440
SW024	22/03/2017	Normal	EB1705908	0.050	0.040	0.320	<0.02	0.490	<0.02	<0.1	<0.02	0.070	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.810	1.020
SW024	8/04/2019	Normal	EB1909636	0.149	-	0.879	-	3.230	-	0.058	0.044	0.196	0.038	0.113	-	-	-	-	-	-	<0.001	0.003	0.003	<0.001	-	-	-	-	-	-	-	**4.110**	-
SW024	8/04/2019	Interlab_D	RN1230420	0.110	0.097	0.850	0.051	3.200	<0.01	0.067	0.067	0.190	0.036	0.092	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.02	<0.05	-	-
SW024	8/04/2019	Field_D	EB1909638	0.138	-	0.743	-	3.290	-	0.055	0.041	0.180	0.038	0.111	-	-	-	-	-	-	<0.001	0.003	0.002	<0.001	-	-	-	-	-	-	-	**4.030**	-
SW024	25/02/2020	Normal	EB2005415	0.220	0.200	1.190	0.050	1.010	<0.02	<0.10	0.100	0.440	0.050	0.080	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.200**	3.340
SW024	23/03/2021	Normal	EB2108522	0.370	0.320	2.120	0.080	1.060	<0.02	0.300	0.350	0.680	0.030	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**3.180**	5.340
SW024	18/03/2022	Normal	EB2208035	0.030	0.020	0.220	0.020	1.300	<0.02	<0.1	<0.02	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.520	1.670
SW024	15/03/2023	Interlab_D	RN1387358	0.018	0.026	0.270	0.030	1.700	<0.01	<0.05	<0.02	0.046	0.012	0.045	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	1.970	2.150
SW024	15/03/2023	Normal	EB2308035	<0.04	0.030	0.360	0.040	2.870	<0.02	<0.1	<0.02	0.050	<0.02	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**3.230**	3.400
SW024	15/03/2023	Field_D	EB2308035	<0.02	0.020	0.290	0.040	2.690	<0.02	<0.1	<0.02	0.050	<0.02	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.980**	3.140
SW025	11/08/2015	Normal	EB1525621	-	-	-	-	1.990	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW025	20/02/2017	Normal	EB1703569	0.040	0.020	0.170	<0.02	0.350	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.520	0.640
SW025	20/02/2017	Field_D	EB1703569	<0.02	0.040	0.170	<0.02	0.350	<0.02	<0.1	<0.02	0.050	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.520	0.630
SW025	8/04/2019	Normal	EB1909644	0.164	0.117	0.545	0.059	0.941	<0.0005	0.060	0.043	0.157	0.033	0.079	0.004	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	**0.004**	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	1.490	2.200
SW025	25/02/2020	Normal	EB2005415	0.070	0.060	0.430	0.030	1.160	<0.02	<0.1	0.040	0.150	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.590	2.010
SW025	23/03/2021	Normal	EB2108522	0.040	0.040	0.240	<0.02	0.360	<0.02	<0.1	<0.02	0.080	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.600	0.760
SW025	3/06/2021	Normal	EB2116620	0.040	0.030	0.260	<0.02	0.740	<0.02	<0.1	<0.02	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.000	1.160
SW025	3/06/2021	Normal	EB2116620	<0.04	0.020	0.210	<0.02	0.760	<0.02	<0.1	<0.02	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.970	1.080
SW025	3/06/2021	Normal	EB2116620	0.020	<0.02	0.180	<0.02	0.690	<0.02	<0.1	<0.02	0.040	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.870	0.950
SW025	3/06/2021	Normal	EB2116620	0.030	<0.02	0.160	<0.02	0.590	<0.02	<0.1	<0.02	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.750	0.840
SW025	3/06/2021	Normal	EB2116620	<0.02	<0.02	0.140	<0.02	0.540	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.680	0.730
SW025	3/06/2021	Normal	EB2116620	<0.02	<0.02	0.140	<0.02	0.530	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.670	0.720
SW025	3/06/2021	Normal	EB2116620	<0.02	<0.02	0.130	<0.02	0.510	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.640	0.690
SW025	3/06/2021	Normal	EB2116620	<0.02	<0.02	0.130	<0.02	0.500	<0.02	<0.1	<0.02	0.020	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.630	0.660
SW025	3/06/2021	Interlab_D	RN1318856	0.039	0.031	0.250	0.011	0.670	<0.01	<0.05	0.022	0.072	0.014	0.022	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW025	3/06/2021	Field_D	EB2116620	0.040	0.020	0.190	<0.02	0.640	<0.02	<0.1	<0.02	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.830	0.970
SW025	4/06/2021	Normal	EB2116620	0.020	<0.02	0.140	<0.02	0.580	<0.02	<0.1	<0.02	0.030	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.720	0.790
SW025	4/06/2021	Normal	EB2116620	<0.02	<0.02	0.130	<0.02	0.560	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.690	0.740
SW025	9/07/2021	Normal	EB2120796	0.060	0.050	0.300	<0.02	0.700	<0.02	<0.1	0.050	0.150	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.000	1.340
SW025	9/07/2021	Normal	EB2120796	0.030	0.030	0.200	<0.02	0.610	<0.02	<0.1	0.020	0.080	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.810	0.990
SW025	9/07/2021	Normal	EB2120071	0.050	0.030	0.220	<0.02	0.520	<0.02	<0.1	0.100	0.200	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.740	1.140
SW025	9/07/2021	Normal	EB2120071	0.030	<0.02	0.140	<0.02	0.550	<0.02	<0.1	0.040	0.080	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.690	0.850
SW025	9/07/2021	Normal	EB2120796	0.020	<0.02	0.140	<0.02	0.470	<0.02	<0.1	<0.02	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.610	0.690
SW025	9/07/2021	Normal	EB2120796	<0.02	<0.02	0.110	<0.02	0.380	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.490	0.540
SW025	9/07/2021	Normal	EB2120796	<0.02	<0.02	0.100	<0.02	0.380	<0.02	<0.1	<0.02	0.040	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.480	0.520
SW025	9/07/2021	Normal	EB2120796	<0.02	<0.02	0.110	<0.02	0.370	<0.02	<0.1	<0.02	0.040	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.480	0.520
SW025	9/07/2021	Normal	EB2120796	<0.02	<0.02	0.110	<0.02	0.360	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.470	0.520
SW025	9/07/2021	Normal	EB2120796	<0.02	<0.02	0.080	<0.02	0.280	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.360	0.390
SW025	9/07/2021	Interlab_D	RN1323090	0.045	0.030	0.210	0.011	0.500	<0.01	<0.05	0.076	0.160	0.011	0.017	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW025	9/07/2021	Field_D	EB2120071	0.020	<0.02	0.140	<0.02	0.500	<0.02	<0.1	0.030	0.070	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.640	0.770
SW025	11/10/2021	Normal	EB2129260	0.100	0.060	0.400	0.020	0.880	<0.02	<0.1	<0.02	0.140	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.280	1.630
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.060	<0.02	0.450	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.510	0.530
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.070	<0.02	0.410	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.480	0.500
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.060	<0.02	0.410	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.470	0.490
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.050	<0.02	0.340	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.390	0.390
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.050	<0.02	0.320	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.370	0.370
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.050	<0.02	0.300	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.350	0.350
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.050	<0.02	0.300	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.350	0.350
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.050	<0.02	0.290	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.340	0.340
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.050	<0.02	0.280	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.330	0.330
SW025	14/10/2021	Normal	EB2129260	<0.02	<0.02	0.040	<0.02	0.260	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.300	0.300
SW025	14/10/2021	Interlab_D	RN1332380	0.012	<0.01	0.059	<0.01	0.360	<0.01	<0.05	<0.02	0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW025	11/11/2021	Normal	EB2133180	0.040	0.040	0.260	0.030	1.200	<0.02	<0.1	<0.04	0.080	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.460	1.720
SW025	11/11/2021	Normal	EB2133180	0.030	0.020	0.130	<0.02	0.670	<0.02	<0.1	<0.03	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.800	0.900
SW025	11/11/2021	Normal	EB2133180	<0.02	<0.02	0.120	<0.02	0.550	<0.02	<0.1	<0.10	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.670	0.720
SW025	11/11/2021	Normal	EB2133180	0.020	<0.02	0.090	<0.02	0.400	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.490	0.540
SW025	11/11/2021	Normal	EB2133180	<0.02	<0.02	0.070	<0.02	0.320	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.390	0.420
SW025	11/11/2021	Normal	EB2133180	<0.02	<0.02	0.060	<0.02	0.300	<0.02	<0.1	<0.10	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.360	0.380
SW025	11/11/2021	Normal	EB2133180	<0.02	<0.02	0.060	<0.02	0.280	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.340	0.360
SW025	11/11/2021	Interlab_D	RN1335319	0.011	<0.01	0.060	<0.01	0.270	<0.01	<0.05	<0.02	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW025	11/11/2021	Interlab_D	RN1335319	0.035	0.037	0.270	0.016	1.200	<0.01	<0.05	<0.02	0.067	0.017	0.039	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW025	11/11/2021	Field_D	EB2133180	0.040	0.040	0.260	0.030	1.360	<0.02	<0.1	<0.14	0.090	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.620	1.890
SW025	11/11/2021	Field_D	EB2133180	<0.02	<0.02	0.060	<0.02	0.240	<0.02	<0.1	<0.08	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.300	0.320
SW025	12/11/2021	Normal	EB2133180	0.040	0.030	0.160	<0.02	0.720	<0.02	<0.1	<0.08	0.050	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.880	1.020
SW025	12/11/2021	Normal	EB2133180	0.030	0.030	0.150	<0.02	0.620	<0.02	<0.1	<0.04	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.770	0.890
SW025	12/11/2021	Normal	EB2133180	0.030	0.020	0.140	<0.02	0.550	<0.02	<0.1	<0.04	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.690	0.790
SW025	30/11/2021	Normal	EB2135913	0.020	<0.02	0.140	<0.02	0.400	<0.02	<0.1	<0.02	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.540	0.610
SW025	30/11/2021	Normal	EB2135913	<0.02	<0.02	0.040	<0.02	0.270	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.310	0.310
SW025	30/11/2021	Normal	EB2135913	<0.02	<0.02	0.

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%								0.00023						19																		
PFAS NEMP 2020 Recreational Water														**10**																	**2**	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SW026	11/08/2015	Normal	EB1525621	-	-	-	-	2.320	-	-	-	-	-	0.130	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
SW026	3/05/2016	Normal	EB1611802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW026	3/05/2016	Normal	EB1611799					1.640						0.020							-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-
SW026	1/02/2017	Normal	EB1702117	0.090	0.070	0.540	0.040	1.720	<0.02	<0.1	0.070	0.100	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.260**	2.720
SW026	24/03/2017	Normal	EB1705969	0.100	0.050	0.360	<0.02	1.080	<0.02	<0.1	<0.02	0.090	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.440	1.700
SW026	8/04/2019	Normal	EB1909636	0.149	-	0.423	-	0.600	-	0.081	0.064	0.124	0.019	0.035	-	-	-	-	-	-	-	<0.001	0.002	0.007	<0.001	-	-	-	-	-	-	-	1.020	-
SW026	8/04/2019	Interlab_D	RN1230420	0.110	0.055	0.410	0.015	0.640	<0.01	0.110	0.088	0.110	0.023	0.035	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.02	<0.05	-	-
SW026	8/04/2019	Field_D	EB1909638	0.141	-	0.331	-	0.579	-	0.072	0.052	0.108	0.020	0.037	-	-	-	-	-	-	-	<0.001	0.003	0.008	<0.001	-	-	-	-	-	-	-	0.910	-
SW026	25/02/2020	Normal	EB2005415	0.030	0.020	0.190	<0.02	0.310	<0.02	<0.1	0.030	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.500	0.660
SW026	23/03/2021	Normal	EB2108522	0.080	0.050	0.310	0.020	0.760	<0.02	<0.1	0.050	0.130	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.070	1.430
SW026	18/03/2022	Normal	EB2208035	0.060	0.030	0.200	<0.02	0.460	<0.02	<0.1	<0.02	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.660	0.840
SW026	15/03/2023	Normal	EB2308035	<0.04	<0.02	0.220	<0.02	0.940	<0.02	<0.1	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	1.160	1.160
SW027	11/08/2015	Normal	EB1525621	-	-	-	-	1.940	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW027	3/05/2016	Normal	EB1611802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW027	3/05/2016	Normal	EB1611799	-	-	-	-	0.660	-	-	-	-	-	0.020	-	-	-	-	-	-	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-
SW027	1/02/2017	Normal	EB1702117	0.070	0.030	0.170	<0.02	0.660	<0.02	<0.1	<0.02	0.030	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.830	0.980
SW027	22/03/2017	Normal	EB1710122	0.060	0.030	0.270	<0.02	0.530	<0.02	<0.1	<0.02	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.800	0.980
SW027	8/04/2019	Normal	EB1909636	0.129	-	0.418	-	0.700	-	0.052	0.029	0.115	0.019	0.046	-	-	-	-	-	-	-	<0.001	0.001	0.001	<0.001	-	-	-	-	-	-	-	1.120	-
SW027	8/04/2019	Interlab_D	RN1230420	0.095	0.058	0.420	0.019	0.750	<0.01	<0.05	0.045	0.100	0.019	0.043	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.02	<0.05	-	-
SW027	8/04/2019	Field_D	EB1909638	0.126	-	0.398	-	0.824	-	<0.002	0.031	0.115	0.020	0.045	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	1.220	-
SW027	25/02/2020	Normal	EB2005415	0.050	0.050	0.380	0.040	1.460	<0.02	<0.1	<0.02	0.130	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.840	2.150
SW027	23/03/2021	Normal	EB2108522	<0.02	<0.02	0.080	<0.02	0.400	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.480	0.510
SW027	18/03/2022	Normal	EB2208035	<0.02	<0.02	0.170	<0.02	0.700	<0.02	<0.1	<0.02	0.050	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.870	0.940
SW027	15/03/2023	Normal	EB2308035	<0.02	<0.02	0.140	<0.02	0.470	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.06	<0.02	<0.06	<0.06	<0.02	<0.06	0.610	0.610
SW028	8/05/2017	Normal	EB1709218	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.010	0.010
SW028	9/04/2019	Normal	EB1909663	0.023	-	0.011	-	0.013	-	<0.002	0.021	0.020	0.004	0.014	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	0.024	-
SW028	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	0.020	<0.02	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.010	0.050
SW028	15/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	15/03/2023	Normal	EB2308035	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	13/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.040	0.040
SW030	9/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW031	11/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW032	11/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW032	2/02/2017	Normal	EB1705587	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	9/04/2019	Normal	EB1909635	<0.0005	-	0.001	-	0.001	-	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	0.001	-
SW032	24/03/2020	Normal	EB2008692	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.03	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	15/04/2021	Normal	EB2110947	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	13/04/2022	Normal	EB2211310	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW033	22/11/2018	Normal	EB1828770	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW034	8/05/2019	Normal	EB1911739	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW035	26/07/2017	Normal	EB1715565	0.020	<0.02	0.060	<0.02	0.120	<0.02	<0.1	0.020	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.180	0.240
SW035	26/07/2017	Field_D	EB1715565	0.020	<0.02	0.040	<0.02	0.130	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.170	0.190
SW036	26/07/2017	Normal	EB1715565	0.020	<0.02	0.060	<0.02	0.160	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.220	0.260
SW037	26/07/2017	Normal	EB1715565	0.020	<0.02	0.060	<0.02	0.130	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.190	0.230
SW038	10/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW039	10/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW040	9/08/2015	Normal	EB1525621					<0.02						<0.02							-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW040	29/03/2017	Normal	EB1706401	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW040	9/04/2019	Normal	EB1909663	<0.0005	-	<0.0005	-	<0.0003	-	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	<0.0003	-
SW040	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW040	23/03/2020	Interlab_D	RN1271386	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW040	23/03/2020	Field_D	EB2008693	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW040	12/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW040	12/04/2021	Interlab_D	RN1312932	<0.01	<0.01	0.017	<0.01	<0.02	<0.01	<0.05	<0.02	0.012	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW040	12/04/2021	Field_D	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW040	18/03/2022	Normal	EB2208035	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW040	19/04/2023	Normal	EB2312082-BE	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW041	9/08/2015	Normal	EB1525621	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW042	2/11/2015	Normal	EB1534033	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW043	2/11/2015	Normal	EB1534033	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW043	2/11/2015	Interlab_D	478994					<0.01						<0.01							-	<0.05	<0.01	-	-	-	-	-	-	-	-	-	-	-
SW043	2/11/2015	Field_D	EB1534033	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW043	1/02/2017	Normal	EB1702117	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW043	20/04/2018	Normal	EB1809892	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW043	8/04/2019	Normal	EB1909644	<0.0005	<0.0005	0.004	<0.0005	0.004	<0.0005	0.035	<0.0005	<0.0005	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.009	0.044
SW043	23/03/2020	Normal	EB2008693	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.010	0.010
SW043	12/04/2021	Normal	EB2110967	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.010	0.010
SW043	12/04/2021	Interlab_D	RN1312932	<0.01	<0.01	0.014	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW043	12/04/2021	Field_D	EB2110967	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.10	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW043	18/03/2022	Normal	EB2208035	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW043	19/04/2023	Normal	EB2312082-BE	0.030	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.030
SW044	10/08/2015	Normal	EB1525621	0.510	-	3.880	-	5.170	<0.02	-	-	0.650	0.080	0.160	0.050	<0.02	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	-	-	<0.02	<0.5	-	<0.5	<0.05	-	<0.5	**9.050**	-
SW045	10/08/2015	Normal	EB1525621	-	-	-	-	1.040	-	-	-	-	-	0.110	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW048	9/08/2015	Normal	EB1525621	-	-	-	-	0.426	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW049	15/08/2017	Normal	EB1716714																															
SW049	15/08/2017	Normal	EB1716714	0.080	0.100	0.400	<0.02	0.260	<0.02	<0.1	0.050	0.150	0.020	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.660	1.090
SW050	12/10/2015	Normal	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW050	12/10/2015	Interlab_D	475642	-	-	-	-	0.020	-	-	-	-	-	0.030	-	-	-	-	-	-	-	<0.05	<0.01	-	-	-	-	-	-	-	-	-	-	-
SW050	12/10/2015	Field_D	EB1531260	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
SW051	5/11/2015	Normal	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW051	5/11/2015	Normal	EB1534043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW051	22/03/2017	Normal	EB1705908	0.060	0.040	0.410	<0.02	0.620	<0.02	0.200	0.140	0.220	0.160	0.260	0.230	0.270	0.300	0.270	<0.02	<0.05	<0.05	0.110	0.300	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.030	3.590
SW052	15/08/2017	Normal	EB1716714	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW052	15/08/2017	Normal	EB1716714	0.070	0.080	0.290	<0.02	0.220	<0.02	<0.1	0.050	0.130	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.510	0.860
SW053	31/03/2016	Normal	EB1608609	<0.02	-	<0.02	-	<0.01	<0.02	-	-	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%								0.00023						19																		
PFAS NEMP 2020 Recreational Water														**10**																	**2**	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SW057	13/04/2022	Normal	EB2211310	<0.02	<0.02	0.100	<0.02	0.550	<0.02	<0.1	0.040	0.040	0.020	0.040	0.030	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.650	0.850
SW057	18/04/2023	Normal	EB2312082-BF	0.020	<0.02	0.110	<0.02	0.580	<0.02	<0.1	0.070	0.050	0.020	0.040	0.040	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.690	0.960
SW058	7/02/2017	Normal	EB1702767	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	0.030	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	0.090
SW059	7/02/2017	Normal	EB1702767	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	0.030	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	0.090
SW059	7/02/2017	Interlab_D	AECO06_170216	<0.01	-	<0.02	-	0.025	<0.02	<0.05	0.027	0.017	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05					<0.02							0.025	
SW059	7/02/2017	Field_D	EB1702767	<0.02	<0.02	0.020	<0.02	0.020	<0.02	<0.1	0.040	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.040	0.120
SW059	24/03/2020	Normal	EB2008683	<0.02	<0.02	<0.02	<0.02	0.010	<0.02	<0.1	<0.02	<0.04	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.010	0.030
SW059	20/04/2021	Normal	EB2110958	<0.02	<0.02	<0.02	<0.02	0.030	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.030	0.030
SW059	13/04/2022	Normal	EB2211323	<0.02	<0.02	0.010	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.030	0.030
SW060	7/02/2017	Normal	EB1702767	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	0.030	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	0.090
SW061	7/02/2017	Normal	EB1702767	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	0.030	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.050
SW062	7/02/2017	Normal	EB1702767	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	0.030	0.020	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	0.090
SW063	22/03/2017	Normal	EB1705908	0.040	0.030	0.300	<0.02	0.690	<0.02	0.200	0.220	0.250	0.190	0.400	0.460	0.530	0.460	0.460	0.040	<0.05	<0.05	0.160	0.730	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.990	5.160
SW063	8/04/2019	Normal	EB1909644	0.004	0.002	0.027	0.003	0.139	0.002	0.004	0.005	0.008	0.006	0.013	0.011	0.012	0.006	0.003	0.001	<0.0005	<0.001	0.002	0.012	<0.001	0.002	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	0.166	0.261
SW063	25/02/2020	Normal	EB2005415	0.180	0.180	1.270	0.060	0.510	<0.02	<0.10	0.360	0.690	0.200	0.210	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.780	3.660
SW063	23/03/2021	Normal	EB2108522	<0.02	<0.02	0.080	<0.02	0.290	<0.02	<0.1	0.040	0.080	0.030	0.040	0.040	0.040	0.020	0.020	<0.02	<0.05	<0.05	<0.05	0.130	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.370	0.810
SW063	18/03/2022	Normal	EB2208035	0.040	0.020	0.170	<0.02	0.380	<0.02	<0.1	<0.04	0.080	0.020	0.040	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.550	0.770
SW063	15/03/2023	Normal	EB2308035	<0.04	<0.02	0.260	<0.02	1.040	<0.02	<0.1	<0.08	0.120	0.040	0.090	0.060	0.050	0.020	<0.02	<0.02	<0.05	<0.05	<0.05	0.170	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.300	1.850
SW064	22/03/2017	Normal	EB1705908	0.100	0.070	0.500	<0.02	0.690	<0.02	<0.1	<0.02	0.120	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.190	1.540
SW065	24/03/2017	Normal	EB1705969	0.210	0.110	0.920	0.070	3.190	<0.02	<0.1	<0.02	0.200	0.080	0.180	0.070	0.090	0.060	0.040	<0.02	<0.05	<0.05	<0.05	0.210	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**4.110**	5.430
SW065	24/03/2017	Interlab_D	AECO06_170329_1	0.110	-	0.760	-	2.400	<0.02	<0.05	0.110	0.160	0.060	0.140	0.043	0.067	0.089	0.027	<0.05	0.055					<0.02							**3.160**	
SW065	24/03/2017	Field_D	EB1705969	0.200	0.110	0.940	0.060	3.280	<0.02	<0.1	<0.02	0.200	0.080	0.180	0.080	0.090	0.070	0.030	<0.02	<0.05	<0.05	<0.05	0.230	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**4.220**	5.550
SW065	9/04/2019	Normal	EB1909663	<0.0005	-	0.001	-	0.005	-	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	0.007	-
SW065	25/02/2020	Normal	EB2005415	0.620	0.600	4.290	0.130	1.470	<0.02	<0.10	0.240	1.040	0.140	0.190	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**5.760**	8.720
SW065	23/03/2021	Normal	EB2108522	0.100	0.040	0.220	<0.02	0.310	<0.02	<0.1	<0.02	0.080	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.530	0.760
SW065	18/03/2022	Normal	EB2208035	0.080	0.040	0.300	<0.02	0.710	<0.02	<0.10	<0.02	0.090	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.010	1.250
SW066	27/01/2017	Normal	EB1701752	0.150	0.150	1.440	0.080	3.080	0.100	<0.1	0.100	0.240	0.070	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.040	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**4.520**	5.590
SW066	24/03/2017	Normal	EB1705969	0.220	0.110	0.720	0.040	2.060	<0.02	<0.1	<0.02	0.180	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.780**	3.420
SW066	9/04/2019	Normal	EB1909663	0.134	-	0.400	-	0.330	-	<0.002	0.059	0.120	0.016	0.031	-	-	-	-	-	-	<0.002	0.012	0.009	<0.002	-	-	-	-	-	-	-	0.730	-
SW066	25/02/2020	Normal	EB2005415	0.050	0.040	0.260	<0.02	0.310	<0.02	<0.10	0.070	0.090	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.570	0.840
SW066	23/03/2021	Normal	EB2108522	0.070	0.060	0.320	0.020	0.960	<0.02	<0.1	0.040	0.130	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.280	1.660
SW066	4/06/2021	Normal	EB2116620	0.150	0.070	0.600	0.030	0.700	<0.02	<0.1	0.060	0.150	0.020	0.050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.300	1.830
SW066	4/06/2021	Normal	EB2116620	0.120	0.070	0.560	0.030	0.580	<0.02	<0.1	0.070	0.140	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.140	1.630
SW066	4/06/2021	Normal	EB2116620	0.130	0.070	0.570	0.030	0.560	<0.02	<0.1	0.070	0.140	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.130	1.630
SW066	4/06/2021	Normal	EB2116620	0.100	0.060	0.500	0.030	0.610	<0.02	<0.1	0.060	0.120	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.110	1.540
SW066	4/06/2021	Normal	EB2116620	0.120	0.070	0.550	0.020	0.560	<0.02	<0.1	0.070	0.140	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.110	1.570
SW066	4/06/2021	Normal	EB2116620	0.080	0.050	0.400	0.020	0.570	<0.02	<0.1	0.040	0.090	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.970	1.290
SW066	4/06/2021	Normal	EB2116620	0.080	0.040	0.380	0.020	0.550	<0.02	<0.1	0.040	0.080	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.930	1.230
SW066	4/06/2021	Normal	EB2116620	0.080	0.040	0.370	0.020	0.550	<0.02	<0.1	0.040	0.090	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.920	1.230
SW066	4/06/2021	Normal	EB2116620	0.070	0.040	0.360	0.020	0.560	<0.02	<0.1	0.040	0.080	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.920	1.200
SW066	4/06/2021	Normal	EB2116620	0.080	0.040	0.350	<0.02	0.550	<0.02	<0.1	0.040	0.080	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.900	1.180
SW066	4/06/2021	Field_D	EB2116620	0.140	0.060	0.550	0.030	0.640	<0.02	<0.1	0.070	0.130	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.190	1.680
SW066	6/06/2021	Interlab_D	RN1318856	0.120	0.071	0.570	0.019	0.490	<0.01	0.130	0.075	0.120	0.028	0.042	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW066	9/07/2021	Normal	EB2120796	0.050	0.040	0.300	<0.02	0.450	<0.02	<0.1	0.030	0.100	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.750	1.000
SW066	9/07/2021	Normal	EB2120796	0.040	0.030	0.250	0.020	0.460	<0.02	<0.1	0.020	0.060	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.710	0.910
SW066	10/07/2021	Normal	EB2120796	0.060	0.060	0.470	0.030	0.470	<0.02	<0.1	0.040	0.110	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.940	1.280
SW066	10/07/2021	Normal	EB2120796	0.060	0.060	0.410	0.020	0.490	<0.02	<0.1	0.040	0.110	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.900	1.230
SW066	10/07/2021	Normal	EB2120796	0.040	0.040	0.310	<0.02	0.590	<0.02	<0.1	0.020	0.080	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.900	1.110
SW066	10/07/2021	Normal	EB2120796	0.050	0.050	0.370	0.020	0.510	<0.02	<0.1	0.030	0.090	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.880	1.160
SW066	10/07/2021	Normal	EB2120796	0.060	0.050	0.380	0.020	0.490	<0.02	<0.1	0.030	0.100	<0.02	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.870	1.170
SW066	10/07/2021	Normal	EB2120796	0.050	0.040	0.330	0.020	0.510	<0.02	<0.1	0.030	0.080	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.840	1.090
SW066	10/07/2021	Normal	EB2120796	0.040	0.040	0.300	<0.02	0.490	<0.02	<0.1	0.020	0.080	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.790	1.000
SW066	10/07/2021	Normal	EB2120796	0.040	0.040	0.280	<0.02	0.500	<0.02	<0.1	0.020	0.070	<0.02	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.780	0.980
SW066	11/11/2021	Normal	EB2133180	0.250	0.230	1.330	0.070	1.370	<0.02	0.200	0.280	0.540	0.050	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.700**	4.410
SW066	11/11/2021	Normal	EB2133180	0.210	0.230	1.320	0.070	1.080	<0.02	<0.1	0.100	0.420	0.050	0.100	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.400**	3.580
SW066	11/11/2021	Normal	EB2133180	0.160	0.190	1.080	0.060	0.970	<0.02	<0.1	0.110	0.330	0.040	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.050**	3.030
SW066	11/11/2021	Normal	EB2133180	0.140	0.130	0.720	0.040	0.900	<0.02	<0.1	0.150	0.260	0.030	0.060	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.620	2.430
SW066	11/11/2021	Normal	EB2133180	0.060	0.060	0.380	0.030	1.020	<0.02	<0.1	0.030	0.100	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.400	1.740
SW066	11/11/2021	Normal	EB2133180	0.040	0.030	0.180	<0.02	0.540	<0.02	<0.1	<0.03	0.050	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.720	0.860
SW066	11/11/2021	Normal	EB2133180	0.040	0.030	0.180	<0.02	0.430	<0.02	<0.1	<0.03	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.610	0.760
SW066	11/11/2021	Normal	EB2133180	0.020	0.020	0.120	<0.02	0.360	<0.02	<0.1	<0.03	0.030	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.480	0.560
SW066	11/11/2021	Normal	EB2133180	0.020	<0.03	0.110	<0.02	0.310	<0.02	<0.1	<0.02	0.030	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.420	0.470
SW066	11/11/2021	Interlab_D	RN1335319	0.059	0.043	0.320	0.013	0.830	<0.01	<0.05	0.030	0.075	0.014	0.030	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW066	11/11/2021	Field_D	EB2133180	0.060	0.060	0.350	0.020	0.890	<0.02	<0.1	0.050	0.090	0.020	0.040	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.240	1.580

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%								0.00023						19																		
PFAS NEMP 2020 Recreational Water														**10**																	**2**	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SW066	12/11/2021	Normal	EB2133180	0.470	0.450	2.640	0.160	1.770	<0.02	0.300	0.300	0.900	0.090	0.190	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**4.410**	7.270
SW066	12/11/2021	Normal	EB2133180	0.350	0.360	2.000	0.100	1.550	<0.02	0.300	0.350	0.750	0.070	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**3.550**	5.970
SW066	3/02/2022	Normal	EB2203621	0.040	0.030	0.240	0.030	0.520	<0.02	<0.1	<0.18	<0.08	<0.02	<0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.760	0.860
SW066	3/02/2022	Normal	EB2203621	0.020	0.020	0.160	<0.02	0.450	<0.02	<0.1	<0.10	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.610	0.650
SW066	3/02/2022	Normal	EB2203621	<0.02	<0.02	0.150	<0.02	0.430	<0.02	<0.1	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.580	0.580
SW066	3/02/2022	Normal	EB2203621	0.020	<0.02	0.140	<0.02	0.390	<0.02	<0.1	<0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.530	0.550
SW066	4/02/2022	Normal	EB2203621	0.020	0.020	0.160	<0.02	0.620	<0.02	<0.1	<0.06	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.780	0.820
SW066	4/02/2022	Normal	EB2203621	0.020	<0.02	0.120	<0.02	0.470	<0.02	<0.1	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.590	0.610
SW066	4/02/2022	Normal	EB2203621	<0.02	<0.02	0.100	<0.02	0.390	<0.02	<0.1	<0.06	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.490	0.490
SW066	4/02/2022	Normal	EB2203621	<0.02	<0.02	0.080	<0.02	0.360	<0.02	<0.1	<0.04	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.440	0.440
SW066	4/02/2022	Normal	EB2203621	<0.02	<0.02	0.100	<0.02	0.320	<0.02	<0.1	<0.04	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.420	0.420
SW066	25/02/2022	Normal	EB2206799	0.050	0.030	0.240	<0.02	0.520	<0.02	<0.1	0.030	0.050	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.760	0.940
SW066	25/02/2022	Normal	EB2206799	0.050	0.020	0.210	<0.02	0.480	<0.02	<0.1	0.030	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.690	0.850
SW066	25/02/2022	Normal	EB2206799	0.040	0.020	0.180	<0.02	0.420	<0.02	<0.1	0.020	0.040	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.600	0.730
SW066	25/02/2022	Normal	EB2206799	0.020	<0.02	0.160	<0.02	0.290	<0.02	<0.1	<0.02	0.020	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.450	0.500
SW066	25/02/2022	Normal	EB2206799	0.020	<0.02	0.100	<0.02	0.260	<0.02	<0.1	<0.02	0.020	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.360	0.400
SW066	25/02/2022	Normal	EB2206799	<0.02	<0.02	0.050	<0.02	0.240	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.290	0.290
SW066	25/02/2022	Normal	EB2206799	<0.02	<0.02	0.030	<0.02	0.140	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.170	0.170
SW066	26/02/2022	Normal	EB2206799	0.060	0.030	0.220	<0.02	0.500	<0.02	<0.1	0.040	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.720	0.930
SW066	26/02/2022	Normal	EB2206799	0.050	0.030	0.210	<0.02	0.490	<0.02	<0.1	0.040	0.060	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.700	0.900
SW066	26/02/2022	Normal	EB2206799	0.050	0.030	0.220	<0.02	0.470	<0.02	<0.1	0.030	0.050	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.690	0.870
SW066	18/03/2022	Normal	EB2208035	0.040	0.030	0.230	<0.02	0.490	<0.02	<0.1	<0.02	0.070	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.720	0.880
SW066	19/04/2023	Normal	EB2312082-BE	0.110	0.060	0.340	0.020	0.690	<0.02	<0.1	0.040	0.080	<0.02	0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.030	1.360
SW067	2/02/2017	Normal	EB1702117	0.140	0.130	0.860	0.060	2.320	<0.02	<0.1	0.120	0.170	0.050	0.090	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.110	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**3.180**	4.050
SW067	24/03/2017	Normal	EB1705969	0.270	0.160	1.110	0.070	2.780	<0.02	<0.1	<0.02	0.260	0.050	0.110	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**3.890**	4.810
SW068	28/03/2017	Normal	EB1706327	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW069	4/04/2017	Normal	EB1712197	<0.02	<0.02	0.030	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.090	0.090
SW070	4/04/2017	Normal	EB1712197	<0.02	<0.02	0.020	<0.02	0.050	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.070	0.070
SW071	11/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW071	11/04/2017	Interlab_D	AECO06/170505	<0.01	-	<0.02	-	<0.02	<0.02	<0.05	<0.02	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	-	<0.05	<0.05	-	-	<0.02	-	-	-	-	-	-	-
SW071	11/04/2017	Field_D	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW072	11/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	0.070	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.070	0.070
SW073	11/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	0.020
SW074	11/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW075	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW076	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW077	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW078	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW079	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW080	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW081	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW082	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW083	12/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW084	13/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	0.060	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.060	0.060
SW085	13/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW086	13/04/2017	Normal	EB1708845	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW087	16/04/2022	Normal	EB2211261-AA	<0.02	<0.02	<0.02	0.010	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.010	0.010
SW090	13/04/2021	Normal	EB2109935	0.610	0.380	1.770	0.060	1.130	<0.02	0.600	0.640	0.950	0.060	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.900**	6.340
SW090	13/04/2021	Normal	EB2109935	0.020	0.030	0.220	<0.02	0.260	<0.02	<0.1	0.030	0.050	<0.02	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.480	0.620
SW090	13/04/2021	Field_D	EB2109935	0.580	0.370	1.430	0.060	1.230	<0.02	0.500	0.640	0.950	0.060	0.140	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.660**	5.960
SW091	5/07/2021	Normal	EB2118846	0.420	0.460	5.010	0.300	4.810	<0.10	<0.5	0.140	0.820	0.200	0.700	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.25	<0.10	<0.25	**9.820**	12.900
SW092	18/06/2021	Normal	EB2119024	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	0.300	0.530	1.180	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	2.050
SW092	18/06/2021	Normal	EB2117541	1.300	0.450	3.820	0.190	13.200	0.060	3.600	2.900	3.140	0.090	0.070	<0.02	0.030	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.030	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**17.000**	28.900
SW092	18/06/2021	Normal	EB2117541	0.680	0.190	1.360	0.030	4.450	0.110	2.500	2.140	2.310	0.070	0.030	<0.02	0.020	0.030	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**5.810**	13.900
SW092	18/06/2021	Normal	EB2117541	0.780	0.210	1.340	0.030	2.700	0.060	2.800	2.320	2.350	0.070	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**4.040**	12.700
SW092	18/06/2021	Normal	EB2117541	0.030	0.040	0.310	0.020	1.440	0.060	0.400	0.680	1.480	0.060	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.750	4.550
SW092	18/06/2021	Interlab_D	RN1320070	0.092	0.045	0.360	<0.01	1.300	<0.01	0.420	0.600	0.980	0.033	0.017	<0.01	0.010	0.010	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-	-
SW092	18/06/2021	Field_D	EB2117549	0.100	0.030	0.330	0.020	1.910	0.060	0.400	0.660	1.480	0.060	0.030	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.240**	5.080
SW093	18/06/2021	Normal	EB2119024	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	0.300	0.530	1.150	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	2.020
SW093	18/06/2021	Normal	EB2117541	0.260	0.070	0.390	0.020	6.980	0.550	0.800	0.930	1.540	0.060	0.020	0.020	0.030	0.030	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.020	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**7.370**	11.700
SW093	18/06/2021	Normal	EB2117549	0.120	0.030	0.120	<0.02	4.080	0.280	0.600	0.800	1.490	0.060	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**4.200**	7.580
SW093	18/06/2021	Normal	EB2117549	0.060	<0.02	0.060	<0.02	2.220	0.150	0.400	0.670	1.380	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	**2.280**	4.980
SW093	18/06/2021	Normal	EB2117549	0.050	<0.02	0.050	<0.02	1.570	0.030	0.500	0.660	1.380	0.050	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.620	4.290
SW094	17/06/2021	Normal	EB2119024	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	0.300	0.530	1.150	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	2.020
SW094	17/06/2021	Normal	EB2117541	0.020	<0.02	0.040	<0.02	0.150	<0.02	1.700	1.130	1.360	0.060	0.030	0.020	0.100	0.080	0.090	0.020	<0.05	<0.05	<0.05	0.140	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.190	4.940
SW094	17/06/2021	Normal	EB2117541	<0.02	<0.02	0.030	<0.02	0.160	<0.02	1.200	0.920	1.400	0.060	0.020	0.020	0.100	0.070	0.070	0.020	<0.05	<0.05	<0.05	0.160	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.190	4.230
SW094	17/06/2021	Normal	EB2117541	<0.02	<0.02	0.020	<0.02	0.100	<0.02	0.900	0.810	1.320	0.060	0.010	<0.02	0.050	0.030	0.020	<0.02	<0.05	<0.05	<0.05	0.080	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.120	3.400
SW094	17/06/2021	Normal	EB2117541	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	0.400	0.640	1.430	0.090	0.100	0.080	0.080	0.070	0.070	0.030	0.050	<0.05	0.080	2.120	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	5.260
SW095	17/06/2021	Normal	EB2119024	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	0.300	0.530	1.180	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	2.050
SW095	17/06/2021	Normal	EB2117541	0.020	<0.02	0.130	<0.02	0.340	<0.02	0.800	1.800	1.610	0.350	0.230	0.190	0.240	0.250	0.580	0.480	0.580	<0.05	0.120	0.210	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.001	0.001	0.0005	0.001	0.0005	0.001	0.001	0.0005	0.001	0.0003	0.0003
PFAS NEMP 2020 Freshwater 99%								0.00023						19																			
PFAS NEMP 2020 Recreational Water														**10**																		**2**	
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SW101	16/06/2021	Normal	EB2119024	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	0.300	0.530	1.170	0.040	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	2.040
SW101	16/06/2021	Normal	EB2117541	<0.02	<0.02	0.100	<0.02	0.410	<0.02	0.400	0.880	1.550	0.270	0.090	0.020	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.070	0.330	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.510	4.120
SW101	16/06/2021	Normal	EB2117541	<0.02	<0.02	<0.02	<0.02	0.230	<0.02	0.300	0.620	1.350	0.050	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.230	2.550
SW101	16/06/2021	Normal	EB2117541	<0.02	<0.02	<0.02	<0.02	0.040	<0.02	0.300	0.660	1.350	0.060	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.040	2.410
SW101	16/06/2021	Normal	EB2117541	<0.02	<0.02	<0.02	<0.02	0.020	<0.02	0.400	0.610	1.370	0.060	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.020	2.460
SW621	3/12/2019	Normal	EB1932828	1.180	0.403	3.790	0.170	17.300	0.158	<0.016	0.992	1.940	0.053	0.205	<0.0160	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.066	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**21.100**	26.200
SW626	5/12/2019	Normal	EB1932828	0.281	0.120	0.928	0.072	5.870	0.049	0.015	0.325	0.331	0.020	0.066	0.013	0.013	0.013	0.003	<0.0016	<0.0040	<0.002	<0.002	0.002	<0.002	0.017	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**6.800**	8.140
SW626	5/12/2019	Normal	EB1932828	0.102	0.053	0.461	0.033	2.720	0.025	0.009	0.113	0.114	0.008	0.028	0.005	0.004	0.008	0.003	<0.0016	<0.0040	<0.002	<0.002	<0.002	<0.002	0.010	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**3.180**	3.700
SW628	4/12/2019	Normal	EB1932828	2.280	0.922	6.040	0.322	21.900	0.131	<0.016	0.931	1.820	0.048	0.166	<0.0160	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.136	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**27.900**	34.700
SW628	4/12/2019	Normal	EB1932828	0.683	0.309	2.580	0.130	9.920	0.109	<0.016	0.259	0.563	0.018	0.056	<0.0160	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.102	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**12.500**	14.700
SW629	4/12/2019	Normal	EB1932828	2.000	1.180	7.590	0.434	43.400	0.450	<0.016	0.936	1.930	0.101	0.306	0.027	0.056	0.088	0.016	<0.0160	<0.0400	<0.016	0.026	0.027	<0.016	0.621	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**51.000**	59.200
SW629	4/12/2019	Normal	EB1932828	1.370	0.771	5.490	0.342	36.400	0.520	<0.016	0.642	1.290	0.070	0.219	0.022	0.046	0.094	<0.0160	<0.0160	<0.0400	<0.016	0.016	0.034	<0.016	0.674	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**41.900**	48.000
SW635	4/12/2019	Normal	EB1932828	1.350	0.766	5.700	0.286	15.500	0.045	<0.002	0.876	1.390	0.033	0.098	0.017	0.012	0.019	0.010	<0.0016	<0.0040	<0.002	<0.002	0.009	<0.002	0.030	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**21.200**	26.100
SW635	4/12/2019	Normal	EB1932828	0.554	0.328	3.120	0.202	14.500	0.043	<0.016	0.363	0.603	0.019	0.054	<0.0160	<0.0160	0.016	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.046	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**17.600**	19.800
SW636	5/12/2019	Normal	EB1932828	1.100	1.190	26.000	0.890	116.000	0.941	0.018	1.240	7.280	0.349	1.740	0.227	0.922	0.205	0.086	<0.0160	<0.0400	<0.016	0.091	1.280	0.552	0.928	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**142.000**	161.000
SW636	5/12/2019	Normal	EB1932828	0.322	0.365	10.200	0.376	71.200	0.611	<0.016	0.358	2.210	0.130	0.832	0.131	0.654	0.163	0.045	<0.0160	<0.0400	<0.016	0.043	0.877	0.336	1.170	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**81.400**	90.000
SW636	5/12/2019	Interlab_D	692172	1.600	1.300	31.000	0.730	88.000	<0.001	1.000	2.900	9.800	0.510	2.200	0.370	0.860	0.250	0.190	0.270	0.610	<0.1	0.210	1.700	0.330	0.550	<0.1	0.150	<0.1	<0.1	0.120	<0.1	**119.000**	146.430
SW636	5/12/2019	Field_D	EB1932828	1.420	1.540	29.500	1.100	130.000	1.540	<0.016	1.690	9.290	0.430	2.000	0.242	0.917	0.323	0.182	<0.0160	<0.0400	<0.016	0.120	1.310	1.140	1.250	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**160.000**	184.000
SW638	5/12/2019	Normal	EB1932828	0.780	0.206	1.130	0.087	8.650	0.078	0.237	0.562	0.753	0.018	0.055	0.006	0.008	0.009	0.002	<0.0016	<0.0040	<0.002	<0.002	0.004	<0.002	0.048	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**9.780**	12.600
SW638	5/12/2019	Normal	EB1932828	0.343	0.106	0.633	0.053	5.150	0.068	0.149	0.254	0.337	0.009	0.030	0.003	0.004	0.006	0.002	<0.0016	<0.0040	<0.002	<0.002	<0.002	<0.002	0.033	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**5.780**	7.180
SW638	5/12/2019	Interlab_D	692172	0.370	0.120	0.760	<0.1	4.500	<0.001	0.250	0.260	0.380	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.100	**0.190**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**5.260**	7.330
SW638	5/12/2019	Field_D	EB1932828	0.330	0.098	0.593	0.047	4.110	0.046	0.107	0.237	0.314	0.009	0.031	0.004	0.005	0.007	0.003	<0.0016	<0.0040	<0.002	<0.002	<0.002	<0.002	0.033	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**4.700**	5.970
SW639	4/12/2019	Normal	EB1932828	1.450	0.707	4.210	0.384	16.000	0.291	0.106	0.666	1.200	0.048	0.109	<0.0160	0.034	0.056	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.258	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**20.200**	25.500
SW639	4/12/2019	Normal	EB1932828	0.838	0.432	2.760	0.285	10.100	0.179	<0.016	0.368	0.640	0.027	0.067	<0.0160	0.022	0.040	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.146	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**12.900**	15.900
SW646	5/12/2019	Normal	EB1932828	2.440	1.480	10.100	0.949	43.800	0.227	<0.016	0.939	2.170	0.088	0.267	<0.0160	<0.0160	<0.0160	<0.0160	<0.0160	<0.0400	<0.016	<0.016	<0.016	<0.016	0.125	<0.040	<0.0160	<0.040	<0.040	<0.0160	<0.040	**53.900**	62.600
SW646	5/12/2019	Normal	EB1932828	0.486	0.265	1.740	0.238	15.100	0.116	0.040	0.213	0.412	0.016	0.053	0.004	0.005	0.010	0.003	<0.0016	<0.0040	<0.002	<0.002	<0.002	<0.002	0.146	<0.004	<0.0016	<0.004	<0.004	<0.0016	<0.004	**16.800**	18.800

LOR is limit of reporting
µg/L is micrograms per litre
'-' denotes no analysis undertaken
'<' denotes concentration is less than
NEMP is National Environmental Mangement Plan
First-time detections

	PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids												PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	0.0002

Location Code	Date	Sample Type	Lab Report																													
SD001	29/10/2014	Normal	EB1445388	-	-	-	-	0.0023	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0023	-
SD001	29/10/2014	Interlab_D	437530	-	-	-	-	<0.005	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	<0.005	-
SD001	29/10/2014	Field_D	EB1445388	-	-	-	-	0.0024	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0024	-
SD002	29/10/2014	Normal	EB1445388	-	-	-	-	0.0029	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0029	-
SD002	11/08/2015	Normal	EB1525621	-	-	-	-	0.0024	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0024	-
SD002	3/05/2017	Normal	EB1709222	<0.0002	<0.0002	0.0005	<0.0002	0.0056	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0061	0.0064
SD002	9/04/2019	Normal	EB1909644	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0026	0.0026
SD003	17/11/2014	Normal	EB1446505	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	<0.0005	-
SD003	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0002	<0.0002	0.0036	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0038	0.0044
SD004	17/11/2014	Normal	EB1446505	-	-	-	-	0.0056	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0056	-
SD004	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0004	<0.0002	0.0139	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0143	0.0147
SD005	17/11/2014	Normal	EB1446505	-	-	-	-	0.0045	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0045	-
SD005	17/11/2014	Interlab_D	439475	-	-	-	-	0.0160	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	0.0160	-
SD005	17/11/2014	Field_D	EB1446505	-	-	-	-	0.0064	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0064	-
SD006	8/04/2015	Normal	ES1508218	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	<0.0005	-
SD006	8/04/2015	Normal	ES1508218	-	-	-	-	0.0012	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0012	-
SD006	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0007	0.0007
SD007	8/04/2015	Normal	ES1508218	-	-	-	-	0.0019	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0019	-
SD007	8/04/2015	Normal	ES1508218	-	-	-	-	0.0007	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0007	-
SD007	2/11/2015	Normal	EB1534033	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	<0.0005	-
SD007	2/11/2015	Interlab_D	478994	-	-	-	-	<0.005	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	<0.01	<0.005	-	-	-	-	-	-	-	<0.005	-
SD007	2/11/2015	Field_D	EB1534033	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	<0.0005	-
SD007	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD007	8/04/2019	Normal	EB1909644	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD007	23/03/2020	Normal	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD007	12/04/2021	Normal	EB2110967	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD007	12/04/2021	Interlab_D	RN1312932	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	-	-
SD007	12/04/2021	Field_D	EB2110967	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD007	18/03/2022	Normal	EB2208035	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0005	0.0005
SD007	19/04/2023	Normal	EB2312082-BE	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0005	0.0005
SD008	8/04/2015	Normal	ES1508218	-	-	-	-	0.0913	-	-	-	-	-	0.0007	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0913	-
SD008	8/04/2015	Normal	ES1508218	-	-	-	-	0.0642	-	-	-	-	-	0.0008	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0642	-
SD008	8/04/2015	Normal	ES1508218	-	-	-	-	0.0397	-	-	-	-	-	0.0007	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0397	-
SD008	8/04/2015	Interlab_D	453644	-	-	-	-	0.1300	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	<0.01	<0.005	-	-	-	-	-	-	-	0.1300	-
SD008	8/04/2015	Field_D	ES1508218	-	-	-	-	0.0402	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0402	-
SD009	8/04/2015	Normal	ES1508218	-	-	-	-	0.0428	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0428	-
SD009	8/04/2015	Normal	ES1508218	-	-	-	-	0.0417	-	-	-	-	-	0.0007	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0417	-
SD010	7/04/2015	Normal	ES1508218	-	-	-	-	0.4920	-	-	-	-	-	0.0079	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.4920	-
SD010	7/04/2015	Normal	ES1508218	-	-	-	-	0.0460	-	-	-	-	-	0.0031	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0460	-
SD010	8/04/2019	Normal	EB1909644	0.0003	<0.0002	0.0023	<0.0002	0.0430	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0453	0.0456
SD010	25/02/2020	Normal	EB2005415	0.0002	0.0003	0.0038	0.0004	0.0229	<0.0002	<0.001	<0.0002	0.0007	0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0267	0.0289
SD010	23/03/2021	Normal	EB2108522	0.0008	0.0008	0.0095	0.0010	0.0997	<0.0002	<0.001	0.0011	0.0030	0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1090	0.1160
SD010	18/03/2022	Normal	EB2208035	<0.0002	<0.0002	0.0005	<0.0002	0.0093	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0098	0.0103
SD010	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0016	0.0003	0.0530	0.0016	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0546	0.0567
SD011	7/04/2015	Normal	ES1508218	-	-	-	-	0.4610	-	-	-	-	-	0.0051	-	-	-	-	-	-	-	<0.005	0.0010	-	-	-	-	-	-	-	0.4610	-
SD011	7/04/2015	Normal	ES1508218	-	-	-	-	0.0266	-	-	-	-	-	0.0014	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0266	-
SD011	8/04/2019	Normal	EB1909636	<0.0002	<0.0002	0.0009	<0.0002	0.0171	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0180	0.0180
SD011	8/04/2019	Field_D	EB1909638	<0.0002	<0.0002	0.0012	<0.0002	0.0156	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0168	0.0168
SD011	25/02/2020	Normal	EB2005415	<0.0002	<0.0002	0.0020	<0.0002	0.0172	<0.0002	<0.001	<0.0002	0.0006	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0192	0.0201
SD011	23/03/2021	Normal	EB2108522	<0.0002	<0.0002	0.0023	0.0004	0.0371	0.0006	<0.001	0.0002	0.0005	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0394	0.0416
SD011	18/03/2022	Normal	EB2208035	<0.0002	<0.0002	0.0022	0.0003	0.0456	0.0016	<0.001	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0478	0.0499
SD011	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0007	<0.0002	0.0131	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0138	0.0143
SD012	7/04/2015	Normal	ES1508218	-	-	-	-	0.1440	-	-	-	-	-	0.0012	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.1440	-
SD012	7/04/2015	Normal	ES1508218	-	-	-	-	0.0558	-	-	-	-	-	0.0007	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0558	-
SD013	7/04/2015	Normal	ES1508218	-	-	-	-	0.0437	-	-	-	-	-	0.0021	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0437	-
SD013	7/04/2015	Normal	ES1508218	-	-	-	-	0.0057	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0057	-
SD013	8/04/2019	Normal	EB1909637	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	0.0011
SD013	23/03/2020	Normal	EB2008675	0.0003	<0.0002	0.0023	0.0003	0.0198	0.0008	<0.001	<0.0002	0.0003	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0221	0.0250
SD013	23/03/2020	Interlab_D	RN1271386	<0.001	<0.001	0.0054	<0.001	0.0490	0.0035	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005			
SD013	23/03/2020	Field_D	EB2008675	0.0005	0.0003	0.0038	0.0007	0.0431	0.0003	<0.001	<0.0002	0.0004	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0469	0.0500
SD013	13/04/2021	Normal	EB2110967	0.0007	0.0007	0.0035	<0.0005	0.0559	0.0032	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	0.0017	<0.0012	<0.0005	<0.0012	<0.0012	<0.0005	<0.0012	0.0594	0.0664
SD013	18/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0028	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0028	0.0032
SD013	18/04/2022	Interlab_D	RN1350926	<0.001	<0.001	<0.001	<0.001	0.0068	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.005	<0.002	<0.002	<0.005			
SD013	18/04/2022	Field_D	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0026	0.0028
SD013	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0012	0.0003	0.0372	0.0016	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0010	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0384	0.0413
SD014	7/04/2015	Normal	ES1508218	-	-	-	-	0.0019	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0019	-
SD014	7/04/2015	Normal	ES1508218	-	-	-	-	0.0012	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0012	-
SD014	7/04/2015	Interlab_D	453644	-	-	-	-	<0.005	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	<0.01	<0.005	-	-	-	-	-	-	-	<0.005	-
SD014	7/04/2015	Field_D	ES1508218	-	-	-	-	0.0015	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0015	-
SD015	7/04/2015	Normal	ES1508218	-	-	-	-	0.0519	-	-	-	-	-	0.0018	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0519	-
SD015	7/04/2015	Normal	ES1508218	-	-	-	-	0.0317	-	-	-	-	-	0.0010	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0317	-
SD015	8/04/2019	Normal	EB1909636	0.0002	<0.0002	0.0017	<0.0002	0.0205	0.0008	<0.001	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0222	0.0240
SD015	8/04/2019	Field_D	EB1909638	<0.0002	<0.0002	0.0008	<0.0002	0.0108	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0116	0.0122
SD015	25/02/2020	Normal	EB2005415	<0.0002	<0.0002	0.0011	<0.0002	0.0126	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0137	0.0145
SD015	23/03/2021	Normal	EB2108522	<0.0002	<0.0002	0.0006	<0.0002	0.0209	0.0016	<0.001	0.0004	0.0007	0.0003	0.0005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0215	0.0252
SD015	18/03/2022	Normal	EB2208035	<0.0002	<0.0002	0.0006	<0.0002	0.0171	0.0013	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0177	0.0190
SD015	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0020	0.0003	0.0344	0.0026	<0.001	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0364	0.0398
SD016	7/04/2015	Normal	ES1508218	-	-	-	-	0.0497	-	-	-	-	-	0.0089	-	-	-	-	-	-	-	0.0060	0.0210	-	-	-	-	-	-	-	0.0497	-
SD016	7/04/2015	Normal	ES1508218	-	-	-	-	0.0126	-	-	-	-	-	0.0057	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	0.0126	-
SD016	8/04/2019	Normal	EB1909644	<0.0002	<0.0002	0.0008	<0.0002	0.0046	<0.0002	<0.001	0.0002	0.0004	0.0003	0.0006	0.0009	0.0011	0.0006	0.0006	<0.0002	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0054	0.0108
SD016	25/02/2020	Normal	EB2005415	<0.0010	<0.0010	0.0014	<0.0010	0.0117	<0.0010	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0020	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0025	<0.0010	<0.0025	0.0131	0.0151
SD016	23/03/2021	Normal	EB2108522	0.0004	0.0002	0.0035	0.0002	0.0181	0.0005	0.0010	0.0016	0.0019	0.0009	0.0011	0.0011	0.0007	0.0007	0.0009	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0216	0.0331
SD016	18/03/2022	Normal	EB2208035	<0.0002	<0.0002	0.0011	<0.0004	0.0303	<0.0002	<0.001	<0.0002	0.0003	<0.0002	0.0006	0.0008	0.0007	0.0003	0.0003	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0314	0.0344
SD016	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0004	<0.0002	0.0069	<0.0002	<0.001	<0.0002	<0.0002	<0.0002

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	0.0002
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SD019	8/04/2015	Normal	ES1508218	-	-	-	-	*<0.0005*	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	*<0.0005*	-
SD019	8/04/2015	Normal	ES1508218	-	-	-	-	0.0028	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0028	-
SD020	8/04/2015	Normal	ES1508218	-	-	-	-	*<0.0005*	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	*<0.0005*	-
SD020	8/04/2015	Normal	ES1508218	-	-	-	-	0.0006	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0006	-
SD021	7/04/2015	Normal	ES1508218	-	-	-	-	0.0090	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0090	-
SD021	7/04/2015	Normal	ES1508218	-	-	-	-	0.0077	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0077	-
SD022	8/04/2015	Normal	ES1508218	-	-	-	-	0.0742	-	-	-	-	-	0.0005	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0742	-
SD022	8/04/2015	Normal	ES1508218	-	-	-	-	0.0344	-	-	-	-	-	0.0014	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0344	-
SD022	9/04/2019	Normal	EB1909663	*<0.0002*	*<0.0002*	0.0005	*<0.0002*	0.0038	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0043	0.0043
SD022	25/02/2020	Normal	EB2005415	*<0.0002*	*<0.0002*	0.0010	*<0.0002*	0.0074	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0084	0.0084
SD022	23/03/2021	Normal	EB2108522	*<0.0002*	*<0.0002*	0.0011	*<0.0002*	0.0172	0.0009	*<0.001*	0.0003	0.0004	*<0.0002*	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0183	0.0202
SD022	18/03/2022	Normal	EB2208035	*<0.0002*	*<0.0002*	0.0009	*<0.0002*	0.0160	*<0.0004*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0169	0.0169
SD022	19/04/2023	Normal	EB2312082-BE	*<0.0002*	*<0.0002*	0.0012	0.0002	0.0228	0.0023	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0240	0.0265
SD023	12/08/2015	Normal	EB1525621	-	-	-	-	0.0322	-	-	-	-	-	0.0011	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0322	-
SD024	12/08/2015	Normal	EB1525621	-	-	-	-	0.0120	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	*<0.005*	*<0.001*	-	-	-	-	-	-	-	0.0120	-
SD024	8/04/2019	Normal	EB1909636	*<0.0002*	*<0.0002*	0.0016	*<0.0002*	0.0474	*<0.0002*	*<0.001*	*<0.0002*	0.0008	*<0.0002*	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0014	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0490	0.0516
SD024	8/04/2019	Field_D	EB1909638	0.0003	0.0004	0.0057	0.0005	0.2840	*<0.0002*	*<0.001*	0.0003	0.0013	0.0003	0.0016	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0021	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.2900	0.2960
SD024	25/02/2020	Normal	EB2005415	*<0.0002*	0.0002	0.0020	*<0.0002*	0.0107	*<0.0002*	*<0.001*	*<0.0002*	0.0003	*<0.0002*	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0127	0.0134
SD024	23/03/2021	Normal	EB2108522	0.0008	0.0009	0.0091	0.0010	0.0624	*<0.0002*	*<0.001*	0.0012	0.0026	*<0.0002*	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0715	0.0784
SD024	18/03/2022	Normal	EB2208035	*<0.0004*	*<0.0002*	0.0025	0.0004	0.0349	0.0015	*<0.001*	*<0.0002*	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0004*	0.0003	0.0003	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0004	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0374	0.0407
SD024	18/03/2022	Interlab_D	RN1347346	*<0.001*	*<0.001*	0.0012	*<0.001*	0.0300	*<0.001*	*<0.002*	*<0.002*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.001*	*<0.001*	*<0.001*	*<0.002*	*<0.001*	*<0.002*	*<0.002*	*<0.005*	*<0.002*	*<0.002*	*<0.005*	-	-
SD024	18/03/2022	Field_D	EB2208035	*<0.0004*	*<0.0002*	0.0022	*<0.0004*	0.0405	0.0016	*<0.001*	0.0002	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0004*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0005	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0427	0.0453
SD024	15/03/2023	Interlab_D	RN1387358	*<0.001*	*<0.001*	0.0076	*<0.001*	0.0730	*<0.001*	*<0.002*	*<0.002*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.001*	*<0.001*	*<0.001*	*<0.002*	*<0.001*	*<0.002*	*<0.002*	*<0.005*	*<0.002*	*<0.002*	*<0.005*	0.0806	0.0806
SD024	15/03/2023	Normal	EB2308035	0.0010	0.0007	0.0079	0.0009	0.0678	0.0004	*<0.001*	*<0.0002*	0.0007	*<0.0002*	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	0.0004	*0.0004*	*<0.0006*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0011	*<0.0006*	*<0.0002*	*<0.0006*	*<0.0006*	*<0.0002*	*<0.0006*	0.0757	0.0815
SD024	15/03/2023	Field_D	EB2308035	0.0008	0.0005	0.0076	0.0009	0.0688	*<0.0002*	*<0.001*	*<0.0002*	0.0006	*<0.0002*	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0006*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0006*	*<0.0002*	*<0.0006*	*<0.0006*	*<0.0002*	*<0.0006*	0.0764	0.0796
SD025	12/08/2015	Normal	EB1525621	-	-	-	-	3.6800	-	-	-	-	-	1.0500	-	-	-	-	-	-	-	2.7800	49.2000	-	-	-	-	-	-	-	3.6800	-
SD025	9/04/2019	Normal	EB1909644	*<0.0002*	*<0.0002*	0.0016	*<0.0002*	0.0152	0.0011	*<0.001*	0.0007	0.0010	0.0008	0.0020	0.0029	0.0051	0.0046	0.0056	0.0027	0.0025	*<0.0005*	*<0.0005*	0.0032	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	0.0168	0.0490
SD025	25/02/2020	Normal	EB2005415	*<0.0010*	*<0.0010*	0.0042	*<0.0010*	0.0523	*<0.0012*	0.0020	0.0042	0.0052	0.0069	0.0088	0.0400	0.2260	0.4360	1.4900	0.8560	0.6210	*<0.0010*	0.0066	0.8570	0.0840	*<0.0010*	*<0.0025*	*<0.0010*	*<0.0025*	*<0.0025*	*<0.0010*	*<0.0025*	0.0565	4.7000
SD025	25/02/2020	Interlab_D	RN1266061	*<0.001*	*<0.001*	*<0.001*	*<0.001*	0.0320	*<0.001*	*<0.002*	0.0035	0.0051	0.0068	0.0100	0.0270	0.1800	0.4400	0.6900	0.5400	0.3600	*<0.001*	0.0081	*<0.001*	0.0190	*<0.001*	*<0.002*	*<0.002*	*<0.005*	*<0.002*	*<0.002*	*<0.005*	-	-
SD025	25/02/2020	Field_D	EB2005415	*<0.0010*	*<0.0010*	0.0011	*<0.0010*	0.0382	0.0011	0.0020	0.0024	0.0038	0.0052	0.0168	0.0608	0.2060	0.3000	0.8220	0.4020	0.2760	*<0.0010*	0.0093	0.4880	0.0380	*<0.0010*	*<0.0025*	*<0.0010*	*<0.0025*	*<0.0025*	*<0.0010*	*<0.0025*	0.0393	2.6700
SD025	23/03/2021	Normal	EB2108522	*<0.0002*	*<0.0002*	0.0005	*<0.0002*	0.0106	0.0009	*<0.001*	0.0005	0.0004	0.0004	0.0008	0.0017	0.0031	0.0016	0.0023	0.0013	0.0009	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0111	0.0250
SD025	18/03/2022	Normal	EB2208035	*<0.0005*	*<0.0005*	0.0014	*<0.0005*	0.0356	0.0029	*<0.002*	0.0010	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0023	0.0071	0.0259	0.0237	0.0328	*<0.0005*	*<0.0005*	*<0.0010*	*<0.0005*	0.0006	*<0.0013*	*<0.0005*	*<0.0013*	*<0.0013*	*<0.0005*	*<0.0013*	0.0370	0.1330
SD025	15/03/2023	Normal	EB2308035	*<0.001*	*<0.001*	0.0034	*<0.001*	0.0649	0.0072	*<0.005*	*<0.001*	0.0022	0.0039	0.0119	0.0254	0.1470	0.5380	1.4600	1.4900	1.9900	*<0.001*	0.0065	0.4540	0.1260	*<0.001*	*<0.0025*	*<0.001*	*<0.0025*	*<0.0025*	*<0.001*	*<0.0025*	0.0683	6.3300
SD026	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1624	-
SD026	28/01/2017	Normal	EB1701752	0.0006	0.0008	0.0104	0.0018	0.1520	0.0069	*<0.001*	*<0.0002*	0.0007	0.0003	0.0012	*<0.0002*	0.0002	0.0002	0.0004	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0009	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.1600	0.1760
SD026	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0622	-
SD026	28/01/2017	Normal	EB1701752	0.0002	0.0003	0.0035	0.0005	0.0587	0.0053	*<0.001*	0.0003	0.0007	0.0002	0.0011	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0021	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0600	0.0731
SD027	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7730	-
SD027	28/01/2017	Normal	EB1701752	0.0133	0.0105	0.1530	0.0079	1.6200	0.0004	*<0.001*	0.0126	0.0865	0.0034	0.0100	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0009	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	1.7700	1.9200
SD027	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2688	-
SD027	28/01/2017	Normal	EB1701752	0.0017	0.0010	0.0108	0.0017	0.2580	0.0071	*<0.001*	0.0027	0.0050	0.0006	0.0024	*<0.0002*	0.0003	0.0006	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0006	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.2600	0.2920
SD028	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8314	-
SD028	28/01/2017	Normal	EB1701752	0.0026	0.0014	0.0464	0.0017	0.7850	0.0023	*<0.001*	0.0044	0.0094	0.0021	0.0064	0.0005	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.8300	0.8620

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	0.0002
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SD028	28/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4800	-
SD028	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4351	-
SD028	28/01/2017	Normal	EB1701752	0.0025	0.0020	0.0531	0.0021	0.3820	0.0185	<0.001	0.0041	0.0064	0.0021	0.0063	0.0013	0.0014	0.0016	0.0015	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.4300	0.4870
SD029	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0745	-
SD029	28/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0022	0.0003	0.0723	0.0057	<0.001	0.0019	0.0019	0.0027	0.0068	0.0126	0.0191	0.0053	0.0037	0.0005	<0.0005	<0.0005	0.0025	0.0046	<0.0005	0.0006	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0700	0.1430
SD029	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0386	-
SD029	28/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0012	<0.0002	0.0374	0.0029	0.0030	0.0008	0.0010	0.0010	0.0030	0.0061	0.0048	0.0014	0.0008	<0.0002	<0.0005	<0.0005	0.0171	0.0006	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0300	0.0811
SD030	9/08/2015	Normal	EB1525621	-	-	-	-	0.0016	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0016	-
SD031	11/08/2015	Normal	EB1525621	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD032	11/08/2015	Normal	EB1525621	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD032	2/02/2017	Normal	EB1705587	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD032	9/04/2019	Normal	EB1909635	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD032	24/03/2020	Normal	EB2008677	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD032	15/04/2021	Normal	EB2110947	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD032	13/04/2022	Normal	EB2211310	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD033	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0633	-
SD033	28/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0015	0.0002	0.0618	0.0035	<0.001	0.0023	0.0024	0.0029	0.0053	0.0083	0.0051	0.0016	0.0007	<0.0002	<0.0005	<0.0005	0.0018	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0600	0.0976
SD033	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0219	-
SD033	28/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0013	<0.0002	0.0206	<0.0002	<0.001	0.0022	0.0022	0.0020	0.0029	0.0024	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0200	0.0336
SD034	2/02/2017	Normal	EB1702117	0.0137	0.0328	0.0969	0.0016	0.0450	<0.0002	<0.001	0.0010	0.0251	0.0052	0.0075	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1420	0.2290
SD034	2/02/2017	Normal	EB1702117	0.0006	0.0005	0.0044	0.0006	0.0618	0.0003	<0.001	0.0006	0.0015	0.0002	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0662	0.0717
SD035	9/08/2015	Normal	EB1525621	<0.0002	-	0.0060	-	0.0094	<0.0002	-	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	0.0006	<0.001	-	<0.001	<0.001	-	<0.001	0.0154	-
SD035	9/08/2015	Interlab_D	468674	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0095	-
SD035	9/08/2015	Interlab_D	468674	<0.005	-	<0.005	-	0.0070	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	-	<0.005	<0.005	-	-	<0.005	-	-	0.0070	-
SD035	9/08/2015	Field_D	EB1525621	<0.0002	-	0.0005	-	0.0091	<0.0002	-	-	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	0.0003	<0.001	-	<0.001	<0.001	-	<0.001	0.0096	-
SD035	29/03/2017	Normal	EB1706401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0158	-
SD035	29/03/2017	Normal	EB1706401	<0.0002	<0.0002	0.0005	<0.0002	0.0153	0.0121	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0100	0.0291
SD036	9/08/2015	Normal	EB1525621	-	-	-	-	0.0006	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0006	-
SD036	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0006	<0.0002	0.0114	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0013	0.0003	0.0032	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0120	0.0168
SD036	1/02/2017	Interlab_D	AEC006_170207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0060	-
SD036	1/02/2017	Interlab_D	AEC006_170207	<0.002	-	<0.002	-	0.0050	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.005	<0.005	-	<0.002	-	-	-	-	-	-	0.0050	-
SD036	1/02/2017	Field_D	EB1702117	<0.0002	<0.0002	0.0005	<0.0002	0.0079	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0010	<0.0002	0.0022	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0084	0.0116
SD036	8/04/2019	Normal	EB1909636	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0013	0.0013
SD036	23/03/2020	Normal	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	0.0032	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0010	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0032	0.0048
SD036	13/04/2021	Normal	EB2110967	<0.0002	<0.0002	0.0006	<0.0002	0.0114	0.0008	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0012	0.0004	0.0021	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0120	0.0169
SD036	15/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	0.0002
SD036	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0007	<0.0002	0.0119	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.0010	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0126	0.0144
SD037	9/08/2015	Normal	EB1525621	-	-	-	-	0.0032	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0032	-
SD037	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0013	0.0013
SD037	8/04/2019	Normal	EB1909636	<0.0002	<0.0002	0.0003	<0.0002	0.0073	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0076	0.0081
SD037	13/04/2021	Normal	EB2110967	<0.0002	<0.0002	0.0010	<0.0002	0.0078	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0004	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0088	0.0094
SD037	16/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0014	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0014	0.0014
SD037	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0003	<0.0002	0.0029	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0032	0.0034
SD038	9/08/2015	Normal	EB1525621	-	-	-	-	0.0007	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0007	-
SD038	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	0.0018
SD038	9/04/2019	Normal	EB1909663	<0.0002	<0.0002	0.0004	<0.0002	0.0017	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0021	0.0024
SD038	23/03/2020	Normal	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0006	0.0006
SD038	13/04/2021	Normal	EB2110967	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0016	0.0019
SD038	14/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0007	0.0007
SD038	14/04/2022	Interlab_D	RN1350926	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	-	-
SD038	14/04/2022	Field_D	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	0.0012
SD038	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0021	0.0021
SD039	2/02/2017	Normal	EB1702117	<0.0002	0.0003	0.0030	0.0003	0.0887	<0.0002	<0.001	<0.0002	0.0007	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0917	0.0936
SD039	2/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0016	0.0002	0.0599	0.0013	<0.001	<0.0002	0.0008	0.0002	0.0008	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0615	0.0651
SD040	9/08/2015	Normal	EB1525621	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD040	29/03/2017	Normal	EB1706401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0005	-
SD040	29/03/2017	Normal	EB1706401	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD040	9/04/2019	Normal	EB1909663	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD040	23/03/2020	Normal	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD040	23/03/2020	Interlab_D	RN1271386	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	-	-
SD040	23/03/2020	Field_D	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD040	12/04/2021	Normal	EB2110967	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD040	12/04/2021	Interlab_D	RN1312932	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	-	-
SD040	12/04/2021	Field_D	EB2110967	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD040	18/03/2022	Normal	EB2208035	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	0.0002
SD040	19/04/2023	Normal	EB2312082-BE	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD041	9/08/2015	Normal	EB1525621	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD042	2/11/2015	Normal	EB1534033	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD042	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD043	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0005	<0.0002	0.0116	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0121	0.0121
SD044	6/02/2017	Normal	EB1702767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD045	7/02/2017	Normal	EB1702767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0006	-
SD045	7/02/2017	Normal	EB1702767	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0005	0.0009

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	0.0002
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SD045	7/02/2017	Interlab_d	AECO06_170216	<0.002	-	<0.002	-	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.005	<0.005	-	<0.002	-	-	-	-	-	-	<0.002	-
SD045	7/02/2017	Field_D	EB1702767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0005	-
SD045	7/02/2017	Field_D	EB1702767	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0007
SD045	24/03/2020	Normal	EB2008678	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD045	20/04/2021	Normal	EB2110958	<0.0002	<0.0002	0.0006	<0.0002	0.0074	0.0002	<0.001	<0.0002	0.0003	0.0002	0.0007	0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0080	0.0099
SD045	13/04/2022	Normal	EB2211323	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0005	0.0005
SD046	7/02/2017	Normal	EB1702767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0004	-
SD046	7/02/2017	Normal	EB1702767	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	0.0003
SD047	7/02/2017	Normal	EB1702767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0005	-
SD047	7/02/2017	Normal	EB1702767	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD048	7/02/2017	Normal	EB1702767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0007	-
SD048	7/02/2017	Normal	EB1702767	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0006	0.0006
SD049	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD049	11/04/2017	Interlab_D	AECO06/170505	<0.002	-	<0.002	-	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.005	<0.005	-	<0.002	-	-	-	-	-	-	-	-
SD049	11/04/2017	Field_D	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD050	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD051	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD052	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD053	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	0.0013	<0.0002	0.0072	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0085	0.0085
SD054	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD055	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD056	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD057	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD058	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD059	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD060	11/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD061	12/04/2017	Normal	EB1708845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0015	-
SD061	12/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	0.0014	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0014	0.0014
SD062	13/04/2017	Normal	EB1708845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0333	-
SD062	13/04/2017	Normal	EB1708845	<0.0002	<0.0002	0.0008	<0.0002	0.0325	0.0023	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0010	<0.0002	0.0004	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0300	0.0370
SD063	13/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD064	13/04/2017	Normal	EB1708845	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002
SD065	13/04/2017	Normal	EB1708845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0347	-
SD065	13/04/2017	Normal	EB1708845	<0.0002	<0.0002	0.0007	<0.0002	0.0340	0.0009	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0300	0.0356
SD066	26/07/2017	Normal	EB1715565	<0.0002	<0.0002	0.0002	<0.0002	0.0070	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0072	0.0076
SD066	26/07/2017	Field_D	EB1715565	<0.0002	<0.0002	0.0002	<0.0002	0.0067	<0.0002	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0069	0.0081
SD067	26/07/2017	Normal	EB1715565	<0.0002	<0.0002	0.0002	<0.0002	0.0057	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0059	0.0062
SD068	26/07/2017	Normal	EB1715565	<0.0002	<0.0002	0.0003	<0.0002	0.0068	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0071	0.0071
SD069	2/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0014	0.0002	0.0656	<0.0002	<0.001	0.0004	0.0028	0.0011	0.0045	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0670	0.0762
SD069	2/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0027	0.0009	0.0419	<0.0002	<0.001	0.0003	0.0012	0.0004	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0446	0.0487
SD070	8/05/2017	Normal	EB1709218	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0008	-
SD070	8/05/2017	Normal	EB1709218	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0007	0.0007
SD070	9/04/2019	Normal	EB1909663	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0004
SD070	23/03/2020	Normal	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	0.0002
SD070	15/04/2021	Normal	EB2110967	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	0.0002
SD070	16/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0006	0.0006
SD070	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	0.0011
SD071	3/02/2017	Normal	EB1702117	0.0497	0.0547	0.5580	0.0635	1.3800	<0.0002	<0.001	0.0218	0.1300	0.0332	0.0698	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	1.9400	2.3600
SD071	3/02/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9100	-
SD071	3/02/2017	Normal	EB1702117	0.0026	0.0016	0.0176	0.0009	0.1040	0.0017	<0.001	0.0026	0.0132	0.0016	0.0022	0.0006	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1220	0.1490
SD072	3/02/2017	Normal	EB1702117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD072	3/02/2017	Normal	EB1702117	0.0009	0.0013	0.0322	0.0030	0.1160	0.0095	<0.001	0.0014	0.0071	0.0023	0.0048	0.0013	0.0007	0.0004	0.0006	0.0004	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	0.0053	<0.0005	0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1480	0.1880
SD072	3/02/2017	Normal	EB1702117	<0.0002	0.0003	0.0073	0.0002	0.0462	0.0005	<0.001	<0.0002	0.0015	0.0005	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0535	0.0574
SD072	3/02/2017	Interlab_D	AECO06_170207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0216	-
SD072	3/02/2017	Interlab_D	AECO06_170207	<0.002	-	0.0026	-	0.0190	0.0028	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.005	<0.005	-	<0.002	-	-	-	-	-	-	0.0200	-
SD072	3/02/2017	Field_D	EB1702117	0.0011	0.0012	0.0123	0.0025	0.1280	0.0028	<0.001	0.0011	0.0035	0.0008	0.0023	0.0009	0.0007	0.0003	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1400	0.1590
SD073	3/02/2017	Normal	EB1702117	0.0004	0.0006	0.0190	0.0009	0.2360	<0.0002	<0.001	0.0009	0.0046	0.0008	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.2550	0.2650
SD073	3/02/2017	Normal	EB1702117	0.0006	0.0009	0.0212	0.0014	0.0720	0.0127	<0.001	0.0017	0.0055	0.0017	0.0022	0.0005	0.0005	0.0004	0.0004	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0034	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0932	0.1250
SD074	8/04/2015	Normal	ES1508218	-	-	-	-	0.0057	-	-	-	-	-	0.0005	-	-	-	-	-	-	-	<0.005	0.0020	-	-	-	-	-	-	-	-	0.0057	-
SD074	8/04/2015	Normal	ES1508218	-	-	-	-	0.0054	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0054	-
SD075	8/04/2015	Normal	ES1508218	-	-	-	-	0.0012	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0012	-
SD075	8/04/2015	Normal	ES1508218	-	-	-	-	0.0011	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0011	-
SD075	2/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0003	<0.0002	0.0053	0.0010	<0.001	<0.0002	0.0003	0.0003	0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0056	0.0076
SD076	10/08/2015	Normal	EB1525621	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD077	10/08/2015	Normal	EB1525621	-	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	<0.0005	-
SD078	10/08/2015	Normal	EB1525621	0.0071	-	0.0548	-	0.1690	<0.0002	-	-	0.0097	0.0039	0.0067	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	<0.002	<0.001	-	<0.001	<0.001	-	<0.001	0.2238	-
SD079	10/08/2015	Normal	EB1525621	-	-	-	-	0.0255	-	-	-	-	-	0.0027	-	-	-	-	-	-	-	<0.005	<0.001	-	-	-	-	-	-	-	-	0.0255	-
SD080	9/02/2011	Normal		-	-	-	-	0.1200	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD081	9/02/2011	Normal		-	-	-	-	<0.0005	-	-	-	-	-	0.1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD082	9/02/2011	Normal		-	-	-	-	<0.0005	-	-	-	-	-	0.0230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD083	9/02/2011	Normal		-	-	-	-	<0.0005	-	-	-	-	-	0.3100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD084	7/12/2010	Normal		-	-	-	-	0.0096	-	-	-	-	-	0.0044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD085	6/12/2010	Normal		-	-	-	-	0.0120	-	-	-	-	-	0.0040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	0.0002
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SD086	27/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2413	-
SD086	27/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2400	-
SD086	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1506	-
SD086	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0006	<0.0002	0.1500	0.0059	<0.001	0.0008	0.0019	0.0011	0.0013	0.0006	0.0010	0.0004	0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.0045	<0.0005	0.0013	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1500	0.1700
SD086	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0140	-
SD086	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0016	0.0003	0.0124	0.0008	<0.001	0.0004	0.0005	0.0006	0.0008	0.0009	0.0013	0.0023	0.0027	0.0007	<0.0005	<0.0005	<0.0005	0.0020	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0100	0.0273
SD087	21/06/2012	Normal		-	-	-	-	0.1210	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD088	27/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1500	-
SD088	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1161	-
SD088	27/01/2017	Normal	EB1701752	0.0004	0.0007	0.0223	0.0011	0.0938	0.0221	<0.001	0.0023	0.0023	0.0013	0.0037	0.0006	0.0005	0.0005	0.0012	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0087	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1100	0.1620
SD088	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1072	-
SD088	27/01/2017	Normal	EB1701752	0.0011	0.0014	0.0241	0.0016	0.0831	0.0221	<0.001	0.0017	0.0028	0.0008	0.0026	0.0006	0.0006	0.0016	0.0029	0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0005	0.0091	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1000	0.1590
SD089	25/06/2012	Normal		-	-	-	-	0.0410	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD090	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0807	-
SD090	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0022	0.0003	0.0785	0.0009	<0.001	0.0003	0.0010	0.0002	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0800	0.0846
SD090	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0366	-
SD090	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0007	0.0002	0.0359	<0.0002	<0.001	<0.0002	0.0006	0.0002	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0300	0.0392
SD091	22/06/2012	Normal		-	-	-	-	0.2470	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD092	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD092	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0112	-
SD092	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0004	<0.0002	0.0108	0.0002	<0.001	<0.0002	0.0003	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0100	0.0100
SD092	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0004	<0.0002	0.0078	0.0003	<0.001	<0.0002	0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0082	0.0090
SD093	21/06/2012	Normal		-	-	-	-	0.0176	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD094	27/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3100	-
SD094	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1211	-
SD094	27/01/2017	Normal	EB1701752	0.0194	0.0195	0.0859	0.0012	0.0352	<0.0002	<0.001	0.0018	0.0193	0.0020	0.0032	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1200	0.1880
SD094	27/01/2017	Normal	EB1701752	0.0005	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0008	0.0013
SD095	21/06/2012	Normal		-	-	-	-	0.1960	-	-	-	-	-	0.0012	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD096	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5520	-
SD096	27/01/2017	Normal	EB1701752	0.0216	0.0248	0.3820	0.0114	0.1700	<0.0002	<0.001	0.0060	0.0522	0.0049	0.0190	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.5500	0.6920
SD096	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1657	-
SD096	27/01/2017	Normal	EB1701752	0.0021	0.0009	0.0117	0.0007	0.1540	0.0021	<0.001	0.0036	0.0063	0.0005	0.0051	0.0003	0.0003	0.0004	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1600	0.1880
SD097	21/06/2012	Normal		-	-	-	-	0.0668	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD098	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0199	-
SD098	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0162	-
SD098	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0014	<0.0002	0.0185	0.0010	<0.001	0.0006	0.0006	0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0100	0.0228
SD098	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0021	<0.0002	0.0141	0.0002	<0.001	0.0004	0.0005	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0100	0.0177
SD099	21/06/2012	Normal		-	-	-	-	0.3700	-	-	-	-	-	0.0018	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
SD100	29/03/2016	Normal	EB1608609	<0.0002	-	0.0003	-	0.0225	<0.0002	-	-	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	<0.0002	<0.001	-	<0.001	<0.001	-	<0.001	0.0228	-
SD101	27/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0720	-
SD101	27/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0700	-
SD101	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0424	-
SD101	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0010	0.0002	0.0414	0.0024	<0.001	0.0004	0.0004	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0400	0.0464
SD101	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0311	-
SD101	27/01/2017	Normal	EB1701752	<0.0002	<0.0002	0.0009	<0.0002	0.0302	0.0018	<0.001	0.0003	0.0004	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0300	0.0341
SD102	30/03/2016	Normal	EB1608609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0023	-
SD102	30/03/2016	Normal	EB1608609	<0.0002	-	<0.0002	-	0.0022	<0.0002	-	-	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	<0.0002	<0.001	-	<0.001	<0.001	-	<0.001	0.0022	-
SD102	30/03/2016	Interlab_D	495205	<0.005	-	<0.005	-	0.0210	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	-	<0.01	<0.01	-	-	<0.01	-	-	0.0235	-
SD102	30/03/2016	Field_D	EB1608609	<0.0002	-	<0.0002	-	<0.0005	<0.0002	-	-	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	<0.0002	<0.001	-	<0.001	<0.001	-	<0.001	<0.0005	-
SD102	8/04/2019	Normal	EB1909637	<0.001	<0.001	0.0078	<0.001	0.0746	<0.001	<0.005	<0.001	0.0025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.0025	<0.001	<0.0025	0.0824	0.0849
SD102	23/03/2020	Normal	EB2008675	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0039	0.0057
SD102	13/04/2021	Normal	EB2110967	<0.0002	<0.0002	0.0009	<0.0002	0.0126	0.0012	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0135	0.0147
SD102	13/04/2021	Interlab_D	RN1312932	<0.001	<0.001	0.0010	<0.001	0.0130	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	-	-
SD102	13/04/2021	Field_D	EB2110967	<0.0002	<0.0002	0.0009	<0.0002	0.0022	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0031	0.0045
SD102	16/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0019	<0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0019	0.0019
SD102	15/03/2023	Interlab_D	RN1387358	<0.001	<0.001	<0.001	<0.001	0.0110	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.005	0.0110	0.0110
SD102	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0006	<0.0002	0.0083	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0089	0.0097
SD102	15/03/2023	Field_D	EB2308035	<0.0002	<0.0002	0.0007	<0.0002	0.0144	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0151	0.0153
SD103	31/03/2016	Normal	EB1608609	<0.0002	-	<0.0002	-	<0.0005	<0.0002	-	-	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	-	<0.005	<0.001	-	<0.0002	<0.001	-	<0.001	<0.001	-	<0.001	<0.0005	-
SD104	13/04/2016	Normal	EB1609928	<0.0002	<0.0005	<0.0002	<0.001	<0.0005	<0.0002	<0.001	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.005	<0.001	<0.002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	-
SD104	1/02/2017	Normal	EB1702117	<0.0002	<0.0002	0.0008	<0.0002	0.0068	<0.0002	<0.001	<0.0002	0.0004	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0076	0.0083
SD105	8/04/2019	Normal	EB1909637	<0.0002	<0.0002	0.0002	<0.0002	0.0092	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	0.0008	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0094	0.0109
SD105	23/03/2020	Normal	EB2008675	0.0002	<0.0002	0.0004	<0.0002	0.0050	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0008	<0.0002	0.0011	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0054	0.0078
SD105	13/04/2021	Normal	EB2110967	<0.0002	<0.0002	0.0008	<0.0002	0.0153	0.0004	<0.001	<0.0002	0.0004	0.0002	0.0016	0.0002	0.0009	<0.0002	0.0006	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0161	0.0204
SD105	15/04/2022	Normal	EB2211261-AA	<0.0002	<0.0002	<0.0002	<0.0002	0.0022	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0003	<0.0002	0.0011	<0.0002	0.0014	<0.0002	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0022	0.0053
SD105	15/03/2023	Normal	EB2308035	<0.0002	<0.0002	0.0006	<0.0002	0.0113	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0002	0.0012	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0119	0.0142
SD106	9/04/2019	Normal	EB1909663	<0.0002	<0.0002	0.0003	<0.0002	0.0038	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0041	0.0043
SD106	25/02/2020	Normal	EB2005415	0.0004	0.0005	0.0060	0.0006	0.0371	<0.0002	<0.001	0.0003	0.0012	0.0003	0.0009	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0431	0.0475
SD106	23/03/2021	Normal	EB2108522	0.0004	0.0004	0.0046	0.0005	0.1520	0.0034	<0.001	0.0009	0.0017	0.0003	0.0010	0.0004	0.0006	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1570	0.1670
SD106	18/03/2022	Normal	EB2208035	<0.0004	<0.0004	0.0041	0.0009	0.1020	0.0057	<0.001	0.0004	0.0005	<0.0006	0.0013	0.0024	0.0150	0.0765	0.0887	0.0193	0.0081	<0.0005	<0.0005	0.0013	<0.0005	0.0013	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.1060	0.3280
SD106	19/04/2023	Normal	EB2312082-BE	<0.0002	<0.0002	0.0026	0.0008	0.0600	<0.0002	<0.001	0.0006	0.0008	0.0008	0.0016	0.0029	0.0029	0.0046	0.0084	0.0029	0.0021	<0.0005	<0.0005	0.0026	0.0006	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0626	0.0942
SD107	8/04/2019	Normal	EB1909644	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	0.0006
SD107	25/02/2020	Normal	EB2005415	<0.0002	<0.0002	0.0018	<0.0002	0.0068	<0.0002	<0.001	0.0004	0.0006	0.0006	0.0012	0.0013	0.0014	0.0018	0.0016	0.0004	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0086	0.0185

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS	
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	0.0002
Location Code	**Date**	**Sample Type**	**Lab Report**																														
SD107	23/03/2021	Normal	EB2108522	*<0.0002*	*<0.0002*	0.0023	*<0.0002*	0.0170	0.0007	0.0010	0.0014	0.0014	0.0012	0.0017	0.0014	0.0014	0.0013	0.0020	0.0007	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0193	0.0335
SD107	18/03/2022	Normal	EB2208035	*<0.0002*	*<0.0002*	0.0010	*<0.0002*	0.0213	0.0023	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	0.0002	0.0008	0.0048	0.0081	0.0124	0.0037	0.0021	*<0.0005*	*<0.0005*	0.0010	*<0.0005*	0.0003	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0223	0.0580
SD107	15/03/2023	Normal	EB2308035	*<0.0002*	*<0.0002*	0.0005	*<0.0002*	0.0068	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	0.0002	0.0004	0.0009	0.0015	0.0018	0.0006	*<0.0005*	*<0.0005*	*<0.0005*	0.0016	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0073	0.0143
SD108	21/06/2012	Normal		-	-	-	-	0.2580	-	-	-	-	-	0.0063	-	-	-	-	-	-	-	*<0.005*	-	-	-	-	-	-	-	-	-	-	-
SD109	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0696	-
SD109	27/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0032	0.0003	0.0664	0.0022	*<0.001*	0.0003	0.0007	0.0003	0.0012	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0600	0.0746
SD109	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0270	-
SD109	27/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0016	*<0.0002*	0.0254	0.0024	*<0.001*	0.0006	0.0004	*<0.0002*	0.0005	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0003	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0200	0.0312
SD110	21/06/2012	Normal		-	-	-	-	0.0634	-	-	-	-	-	0.0006	-	-	-	-	-	-	-	*<0.005*	-	-	-	-	-	-	-	-	-	-	-
SD111	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0353	-
SD111	27/01/2017	Normal	EB1701752																													0.0324	
SD111	27/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0021	0.0002	0.0332	0.0011	*<0.001*	0.0027	0.0020	0.0022	0.0026	0.0015	0.0010	0.0014	0.0008	0.0002	*<0.0005*	*<0.0005*	*<0.0005*	0.0044	0.0006	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0300	0.0560
SD111	27/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0011	*<0.0002*	0.0313	0.0007	*<0.001*	0.0013	0.0008	0.0007	0.0010	0.0008	0.0003	0.0002	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0300	0.0382
SD112	21/06/2012	Normal		-	-	-	-	0.0695	-	-	-	-	-	0.0077	-	-	-	-	-	-	-	*<0.005*	-	-	-	-	-	-	-	-	-	-	-
SD113	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0274	-
SD113	27/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0010	*<0.0002*	0.0264	0.0013	*<0.001*	0.0015	0.0014	0.0022	0.0022	0.0026	0.0009	0.0006	0.0002	*<0.0002*	*<0.0005*	*<0.0005*	0.0014	0.0033	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0200	0.0450
SD113	27/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0116	-
SD113	27/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0004	*<0.0002*	0.0112	0.0004	*<0.001*	0.0008	0.0006	0.0008	0.0007	0.0010	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0100	0.0162
SD114	15/01/2013	Normal		-	-	-	-	0.0516	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD114	15/01/2013	Normal		-	-	-	-	0.0732	-	-	-	-	-	0.0012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD115	28/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0008	*<0.0002*	0.0060	0.0004	*<0.001*	*<0.0002*	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0068	0.0075
SD115	28/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0003	*<0.0002*	0.0019	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0022	0.0022
SD115	28/01/2017	Interlab_D	AECO06_170201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0065	-
SD115	28/01/2017	Interlab_D	AECO06_170201	*<0.002*	-	*<0.002*	-	0.0055	*<0.002*	*<0.005*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	*<0.005*	-	*<0.002*	-	-	-	-	-	-	0.0055	-
SD115	28/01/2017	Field_D	EB1701752	*<0.0002*	*<0.0002*	0.0004	*<0.0002*	0.0021	0.0002	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0025	0.0027
SD116	15/01/2013	Normal		-	-	-	-	0.0118	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD116	15/01/2013	Normal		-	-	-	-	0.0032	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD117	28/01/2017	Normal	ES1709078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3900	-
SD117	28/01/2017	Normal	EB1701752																													0.1661	
SD117	28/01/2017	Normal	EB1701752	0.0010	0.0011	0.0161	0.0024	0.1500	0.0016	*<0.001*	0.0007	0.0020	0.0007	0.0015	*<0.0002*	0.0002	*<0.0002*	0.0003	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0010	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.1600	0.1790
SD117	28/01/2017	Normal	EB1701752																													0.0224	
SD117	28/01/2017	Normal	EB1701752	0.0004	0.0004	0.0023	0.0003	0.0201	0.0006	*<0.001*	0.0004	0.0014	*<0.0002*	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0003	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0200	0.0265
SD117	28/01/2017	Interlab_D	AECO06_170201																													0.6540	
SD117	28/01/2017	Interlab_D	AECO06_170201	0.0023	-	0.0240	-	0.6300	0.0091	*<0.005*	*<0.002*	0.0031	*<0.002*	0.1500	*<0.002*	*<0.002*	*<0.002*	0.0035	*<0.002*	*<0.002*	-	*<0.005*	*<0.005*	-	0.0200	-	-	-	-	-	-	-	0.6500	-
SD117	28/01/2017	Field_D	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0390	-
SD117	28/01/2017	Field_D	EB1701752	0.0003	0.0003	0.0034	0.0005	0.0356	0.0009	0.2070	0.0013	0.0004	*<0.0002*	0.0008	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0006	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0300	0.2510
SD118	15/01/2013	Normal		-	-	-	-	0.0030	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD118	15/01/2013	Normal		-	-	-	-	0.0013	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD119	15/01/2013	Normal		-	-	-	-	0.0092	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD119	15/01/2013	Normal		-	-	-	-	0.0067	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD120	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0314	-
SD120	28/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0014	0.0003	0.0300	*<0.0002*	*<0.001*	0.0002	0.0007	0.0005	0.0019	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0300	0.0350
SD120	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0105	-
SD120	28/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0014	0.0003	0.0300	*<0.0002*	*<0.001*	0.0002	0.0007	0.0005	0.0019	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0300	0.0350
SD120	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0105	-
SD120	28/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	0.0003	*<0.0002*	0.0102	*<0.0002*	*<0.001*	*<0.0002*	0.0003	0.0003	0.0017	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0100	0.0130
SD121	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0240	-
SD121	28/01/2017	Normal	EB1701752	0.0003	0.0002	0.0038	0.0005	0.0202	0.0008	*<0.001*	0.0002	0.0002	*<0.0002*	0.0003	0.0004	0.0012	0.0006	0.0003	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0002	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0200	0.0292
SD121	28/01/2017	Normal	EB1701752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0020	-
SD121	28/01/2017	Normal	EB1701752	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	0.0019	0.0002	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0019	0.0023
SD122	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0011	*<0.0002*	0.0876	*<0.0002*	*<0.001*	*<0.0002*	0.0003	*<0.0002*	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0887	0.0893
SD122	2/02/2017	Normal	EB1702117	*<0.0002*	0.0002	0.0017	*<0.0002*	0.0210	0.0009	*<0.001*	*<0.0002*	0.0005	*<0.0002*	0.0004	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0227	0.0249
SD123	2/02/2017	Normal	EB1705587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0226	-
SD123	2/02/2017	Normal	EB1705587	0.0005	0.0008	0.0199	0.0007	0.0027	*<0.0002*	*<0.001*	0.0004	0.0017	0.0012	0.0031	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0200	0.0310
SD123	2/02/2017	Normal	EB1705587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0149	-
SD123	2/02/2017	Normal	EB1705587	*<0.0002*	*<0.0002*	0.0009	*<0.0002*	0.0140	*<0.0002*	*<0.001*	0.0005	0.0006	0.0010	0.0018	0.0016	0.0007	0.0002	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0100	0.0213
SD124	2/02/2017	Normal	EB1705587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0134	-
SD124	2/02/2017	Normal	EB1705587	*<0.0002*	*<0.0002*	0.0014	0.0011	0.0120	0.0004	*<0.001*	*<0.0002*	0.0016	0.0014	0.0023	0.0020	0.0019	0.0008	0.0003	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0100	0.0252
SD124	2/02/2017	Normal	EB1705587	0.0004	0.0004	0.0073	*<0.0002*	0.0014	*<0.0002*	*<0.001*	0.0004	0.0016	0.0005	0.0006	0.0002	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0087	0.0128
SD125	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0036	0.0002	0.1550	*<0.0002*	*<0.001*	0.0011	0.0012	0.0009	0.0020	0.0008	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.1590	0.1650
SD125	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0033	0.0003	0.1080	0.0062	*<0.001*	0.0037	0.0049	0.0030	0.0043	0.0077	0.0088	0.0018	0.0012	0.0003	*<0.0005*	*<0.0005*	*<0.0005*	0.0011	*<0.0005*	0.0011	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.1110	0.1560
SD126	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0006	*<0.0002*	0.0192	0.0010	*<0.001*	*<0.0002*	0.0006	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0008	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0198	0.0222
SD126	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0009	*<0.0002*	0.0100	0.0009	*<0.001*	*<0.0002*	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0004	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0109	0.0126
SD127	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0004	*<0.0002*	0.0129	0.0003	*<0.001*	*<0.0002*	0.0003	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0005	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0133	0.0144
SD127	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0012	*<0.0002*	0.0051	0.0031	*<0.001*	*<0.0002*	0.0009	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0005	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0063	0.0108
SD128	2/02/2017	Normal	EB1702117	0.0012	0.0018	0.0276	0.0012	0.0560	0.0029	*<0.001*	0.0013	0.0128	0.0024	0.0039	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	0.0018	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0836	0.1130
SD128	2/02/2017	Normal	EB1702117	*<0.0002*	0.0002	0.0055	0.0002	0.0657	*<0.0002*	*<0.001*	0.0003	0.0030	0.0002	0.0004	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0712	0.0755
SD128	2/02/2017	Normal	EB1702117	*<0.0002*	*<0.0002*	0.0014	*<0.0002*	0.0079	*<0.0002*	*<0.001*	*<0.0002*	0.0011	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0093	0.0104
SS011	5/04/2017	Normal	EB1707213	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0002*
SS012	5/04/2017	Normal	EB1707213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0004	-
SS012	5/04/2017	Normal	EB1707213	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	0.0003	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0003	0.0003
SS013	5/04/2017	Normal	EB1707213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0003	-
SS013	5/04/2017	Normal	EB1707213	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	0.0002	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	0.0002	0.0002
SS014	5/04/2017	Normal	EB1707213	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.001*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0005*	*<0.0002*	*<0.0005*	*<0.0002*	*<0.0002*

LOR is limit of reporting
mg/kg is milligrams per kilogram
-' denotes no analysis undertaken
<' denotes concentration is less than
NEMP is National Environmental Mangement Plan
First-time detections

Appendix C

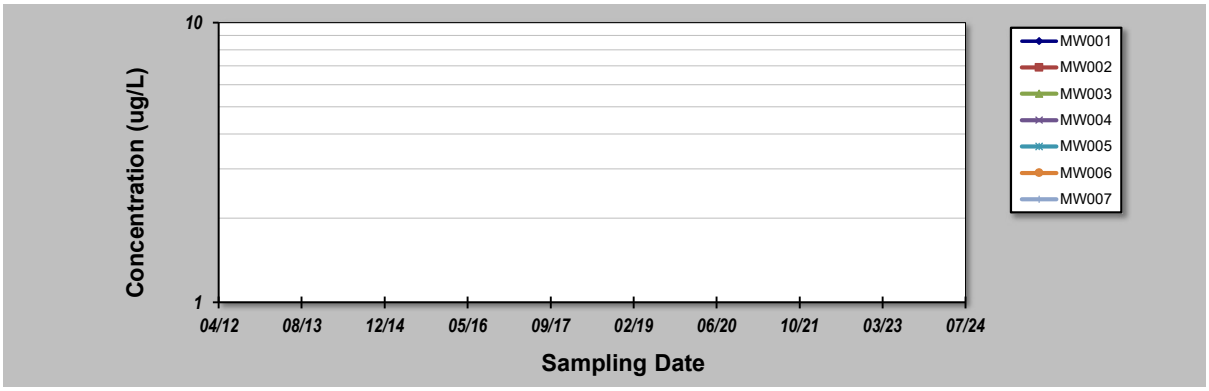
Statistical Analysis

Appendix C Statistical Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW001	MW002	MW003	MW004	MW005	MW006	MW007
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Jan-2014							
2	May-2014							
3	Oct-2015							
4	Nov-2015							
5	Feb-2016							
6	Mar-2016							
7	Apr-2016							
8	May-2016							
9	Sep-2016							
10	Oct-2016							
11	Jan-2017							
12	Mar-2017							
13	Apr-2017							
14	Oct-2018							
15	Nov-2018							
16	Apr-2019							
17	May-2019							
18	Jul-2019							
19	Oct-2019							
20	Nov-2019							
21	Jan-2020							
22	Mar-2020							
23	Apr-2020							
24	May-2020							
25	Oct-2020							
26	Apr-2021							
27	Oct-2021							
28	Apr-2022							
29	Oct-2022							
30	Nov-2022							
31	Apr-2023							
32	Oct-2023							
33								
34								
35								
Coefficient of Variation:								
Mann-Kendall Statistic (S):								
Confidence Factor:								
Concentration Trend:								



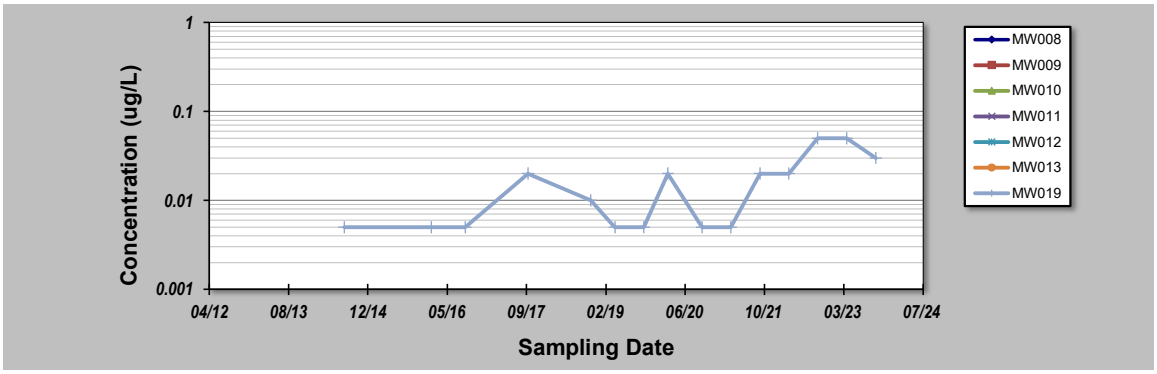
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW008	MW009	MW010	MW011	MW012	MW013	MW019
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Jan-2014							
2	May-2014							
3	Jun-2014							
4	Aug-2014							0.005
5	Oct-2014							
6	Feb-2015							
7	Oct-2015							
8	Nov-2015							
9	Feb-2016							0.005
10	Mar-2016							
11	Apr-2016							
12	May-2016							
13	Sep-2016							0.005
14	Oct-2016							
15	Jan-2017							
16	Mar-2017							
17	Apr-2017							
18	May-2017							
19	Oct-2017							0.020
20	Nov-2018							0.010
21	Apr-2019							0.005
22	May-2019							
23	Jul-2019							
24	Oct-2019							0.005
25	Nov-2019							
26	Jan-2020							
27	Mar-2020							0.020
28	Apr-2020							
29	May-2020							
30	Oct-2020							0.005
31	Apr-2021							0.005
32	Oct-2021							0.020
33	Apr-2022							0.020
34	Oct-2022							0.050
35	Apr-2023							0.05
36	Oct-2023							0.03
37								
38								
39								
40								
Coefficient of Variation:								0.69
Mann-Kendall Statistic (S):								17
Confidence Factor:								86.0%
Concentration Trend:								No Trend



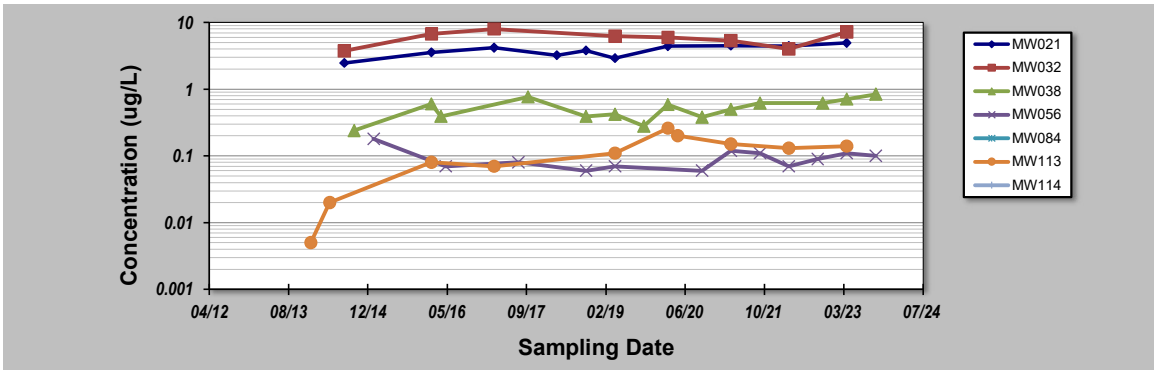
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW021	MW032	MW038	MW056	MW084	MW113	MW114
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Jan-2014						0.005	
2	May-2014						0.020	
3	Jun-2014							
4	Aug-2014	2.470	3.750					
5	Oct-2014			0.240				
6	Feb-2015				0.180			
7	Oct-2015							
8	Nov-2015							
9	Feb-2016	3.560	6.730	0.600			0.080	
10	Mar-2016							
11	Apr-2016			0.390				
12	May-2016				0.070			
13	Sep-2016							
14	Oct-2016							
15	Jan-2017							
16	Mar-2017	4.190	7.950				0.070	
17	Apr-2017							
18	Aug-2017				0.080			
19	Sep-2017							
20	Oct-2017			0.770				
21	Apr-2018	3.220						
22	Oct-2018	3.800		0.390	0.060			
23	Nov-2018							
24	Apr-2019	2.910	6.260	0.420	0.070		0.110	
25	May-2019							
26	Jul-2019							
27	Oct-2019			0.280				
28	Nov-2019							
29	Jan-2020							
30	Mar-2020	4.440	5.930	0.590			0.260	
31	Apr-2020							
32	May-2020						0.200	
33	Oct-2020			0.380	0.060			
34	Apr-2021	4.480	5.330	0.500	0.120		0.150	
35	Oct-2021			0.620	0.110			
36	Apr-2022	4.420	3.990		0.070		0.130	
37	Oct-2022				0.090			
38	Nov-2022			0.620				
39	Apr-2023	4.93	7.19	0.71	0.11		0.14	
40	Oct-2023			0.84	0.1			
Coefficient of Variation:		0.20	0.25	0.38	0.53		0.88	
Mann-Kendall Statistic (S):		7	0	-1	-9		17	
Confidence Factor:		80.9%	40.8%	50.0%	93.2%		99.5%	
Concentration Trend:		No Trend	Stable	Stable	Prob. Decreasing		Increasing	



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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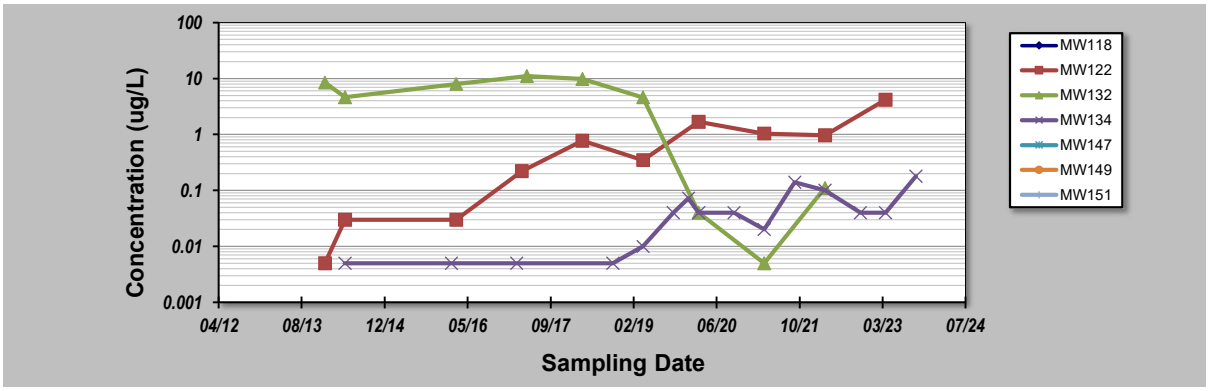
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW118	MW122	MW132	MW134	MW147	MW149	MW151
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Jan-2014		0.005	8.470				
2	May-2014		0.030	4.650	0.005			
3	Jun-2014							
4	Feb-2016				0.005			
5	Mar-2016		0.030	8.000				
6	Apr-2016							
7	May-2016							
8	Mar-2017				0.005			
9	Apr-2017		0.220					
10	May-2017			11.000				
11	Jun-2017							
12	Jul-2017							
13	Apr-2018		0.770	9.820				
14	Oct-2018				0.005			
15	Nov-2018							
16	Apr-2019		0.350	4.610	0.010			
17	May-2019							
18	Jul-2019							
19	Oct-2019				0.040			
20	Nov-2019							
21	Jan-2020				0.073			
22	Mar-2020		1.690	0.040	0.040			
23	Apr-2020							
24	May-2020							
25	Oct-2020				0.040			
26	Apr-2021		1.040	0.005	0.020			
27	Oct-2021				0.140			
28	Apr-2022		0.970	0.110	0.100			
29	Oct-2022							
30	Nov-2022				0.040			
31	Apr-2023		4.180		0.040			
32	Aug-2023							
33	Oct-2023				0.180			
34								
35								
Coefficient of Variation:			1.37	0.84	1.07			
Mann-Kendall Statistic (S):			36	-18	63			
Confidence Factor:			>99.9%	96.2%	99.9%			
Concentration Trend:			Increasing	Decreasing	Increasing			



Notes:

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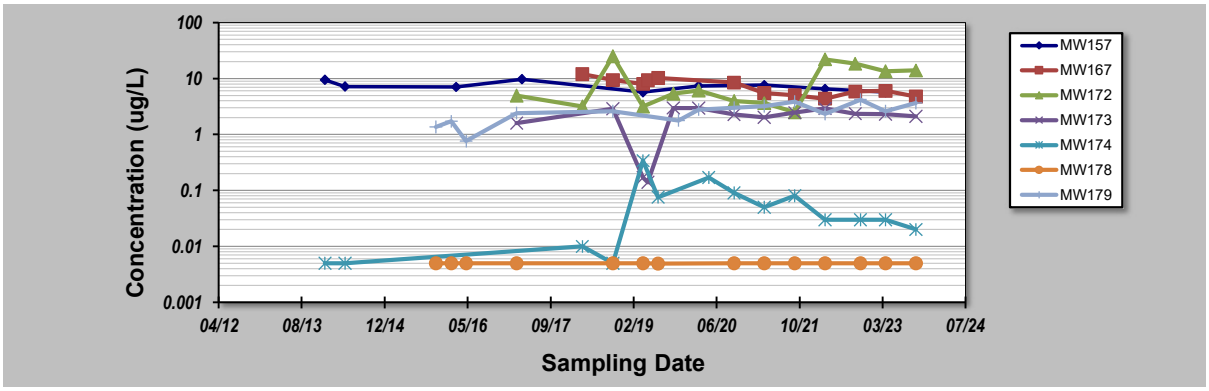
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW157	MW167	MW172	MW173	MW174	MW178	MW179
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Jan-2014	9.490				0.005		
2	May-2014	7.210				0.005		
3	Nov-2015						0.005	1.360
4	Feb-2016						0.005	1.720
5	Mar-2016	7.060						
6	Apr-2016							
7	May-2016						0.005	0.760
8	Sep-2016							
9	Oct-2016							
10	Jan-2017							
11	Mar-2017			4.920	1.590		0.005	2.420
12	Apr-2017	9.720						
13	Apr-2018		12.000	3.150		0.010		
14	Oct-2018		9.400	25.000	2.890	0.005	0.005	2.600
15	Nov-2018							
16	Apr-2019	5.710	7.970	3.160	0.170	0.340	0.005	
17	May-2019		9.300		0.140			
18	Jul-2019		10.200			0.076	0.005	
19	Oct-2019			5.340	2.980			
20	Nov-2019							1.780
21	Jan-2020							
22	Mar-2020	7.400		6.120	2.970			2.790
23	Apr-2020							
24	May-2020					0.170		
25	Oct-2020		8.450	3.960	2.270	0.090	0.005	3.010
26	Apr-2021	7.680	5.500	3.630	2.010	0.050	0.005	3.210
27	Oct-2021		5.010	2.500	2.460	0.080	0.005	3.890
28	Apr-2022	6.540	4.340	22.100	2.900	0.030	0.005	2.330
29	Oct-2022		5.850	18.400	2.340			
30	Nov-2022					0.030	0.005	4.190
31	Apr-2023	5.690	6.010	13.400	2.310	0.030	0.005	2.590
32	Oct-2023		4.760	14.000	2.100	0.020	0.005	3.650
33								
34								
35								
Coefficient of Variation:		0.19	0.34	0.82	0.46	1.35	0.01	0.38
Mann-Kendall Statistic (S):		-14	-40	16	4	7	1	55
Confidence Factor:		91.0%	99.7%	81.6%	57.1%	62.6%	50.0%	99.9%
Concentration Trend:		Prob. Decreasing	Decreasing	No Trend	No Trend	No Trend	No Trend	Increasing



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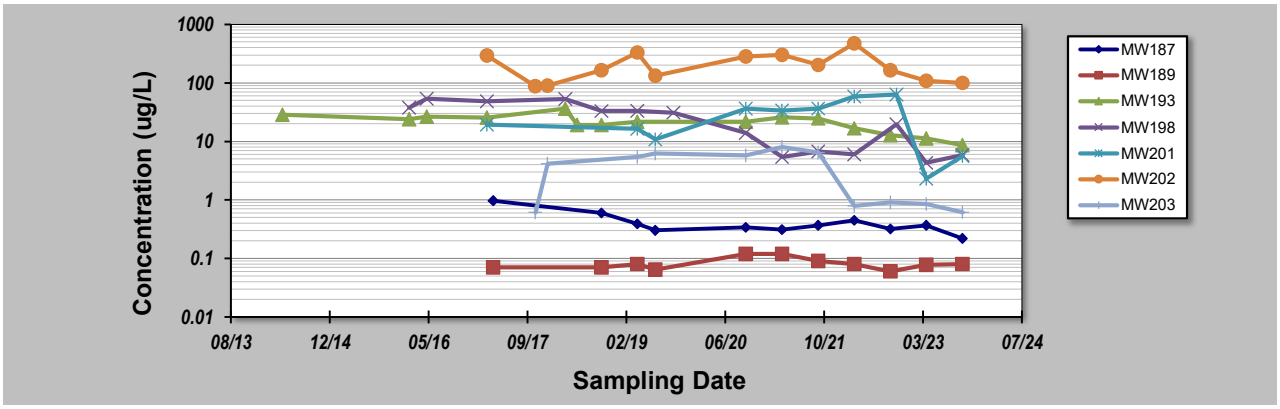
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW187	MW189	MW193	MW198	MW201	MW202	MW203
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	May-2014			28.600				
2	Feb-2016			23.800	37.700			
3	May-2016			26.500	53.500			
4	Mar-2017			25.400	48.300	19.300	294.000	
5	Apr-2017	0.970	0.070					
6	Nov-2017						88.100	0.610
7	Dec-2017							
8	Jan-2018						89.600	4.160
9	Apr-2018			36.300	53.000			
10	May-2018							
11	Jun-2018			19.000				
12	Jul-2018							
13	Sep-2018							
14	Oct-2018	0.600	0.070	19.000	33.000		164.000	
15	Nov-2018							
16	Apr-2019	0.390	0.080	21.600	33.200	16.500	331.000	5.420
17	May-2019							
18	Jul-2019	0.302	0.065			10.800	132.000	6.220
19	Oct-2019				30.900			
20	Oct-2020	0.340	0.120	21.500	14.000	36.200	282.000	5.810
21	Apr-2021	0.310	0.120	25.900	5.400	33.700	301.000	8.040
22	Oct-2021	0.370	0.090	24.700	6.730	36.500	202.000	6.460
23	Apr-2022	0.450	0.080	16.700	5.990	58.500	475.000	0.790
24	Oct-2022	0.320	0.060	12.800			165.000	0.900
25	Nov-2022				19.600	63.000		
26	Apr-2023	0.370	0.078	11.200	4.310	2.310	108.000	0.850
27	Oct-2023	0.220	0.080	8.650	5.830	5.660	99.700	0.620
28								
29								
30								
Coefficient of Variation:		0.49	0.24	0.34	0.74	0.75	0.56	0.80
Mann-Kendall Statistic (S):		-22	2	-62	-65	5	2	-5
Confidence Factor:		94.9%	53.0%	99.9%	>99.9%	63.6%	52.4%	61.9%
Concentration Trend:		Prob. Decreasing	No Trend	Decreasing	Decreasing	No Trend	No Trend	Stable



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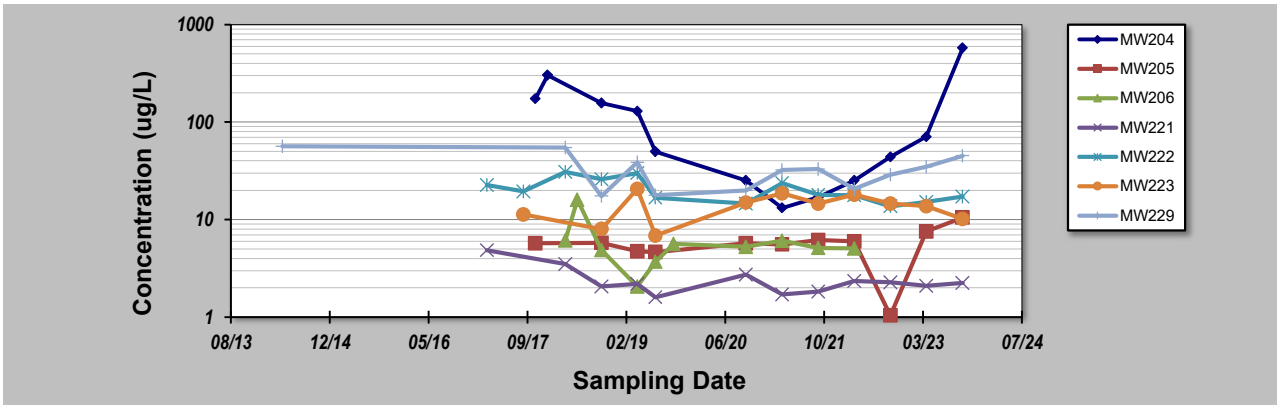
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW204	MW205	MW206	MW221	MW222	MW223	MW229
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	May-2014							56.600
2	Mar-2017				4.860	22.700		
3	Sep-2017					19.500	11.300	
4	Nov-2017	174.000	5.710					
5	Dec-2017							
6	Jan-2018	304.000						
7	Apr-2018			6.140	3.510	30.900		54.800
8	May-2018							
9	Jun-2018			16.000				
10	Oct-2018	157.000	5.770	4.880	2.070	26.000	8.020	17.400
11	Nov-2018							
12	Apr-2019	130.000	4.740	2.070	2.200	30.000	20.700	38.900
13	May-2019							
14	Jul-2019	49.900	4.660	3.700	1.600	16.800	6.860	17.800
15	Oct-2019			5.630				
16	Oct-2020	25.300	5.720	5.270	2.730	14.600	15.000	19.900
17	Apr-2021	13.200	5.580	6.070	1.710	23.600	18.600	32.300
18	Oct-2021	17.000	6.170	5.130	1.830	17.900	14.600	32.900
19	Apr-2022	25.200	5.960	5.080	2.340	17.700	18.000	20.600
20	Oct-2022	43.900	1.040		2.280	13.700	14.600	29.000
21	Apr-2023	71.000	7.540		2.090	15.200	13.700	34.900
22	Oct-2023	575.000	10.500		2.240	17.300	10.200	45.300
23								
24								
25								
Coefficient of Variation:		1.24	0.39	0.62	0.37	0.28	0.32	0.41
Mann-Kendall Statistic (S):		-16	19	-7	-12	-36	-4	2
Confidence Factor:		84.5%	91.8%	70.0%	77.0%	98.5%	59.0%	52.7%
Concentration Trend:		No Trend	Prob. Increasing	Stable	Stable	Decreasing	Stable	No Trend



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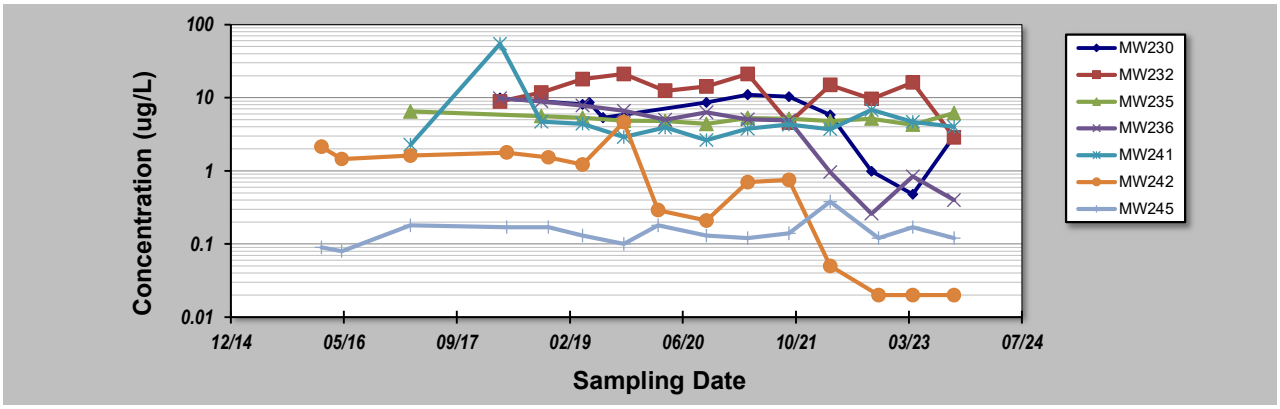
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW230	MW232	MW235	MW236	MW241	MW242	MW245
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Feb-2016						2.140	0.090
2	May-2016						1.450	0.080
3	Mar-2017			6.490		2.280	1.620	0.180
4	Apr-2018	9.900	8.820		9.800	54.600		
5	May-2018						1.780	0.170
6	Oct-2018		11.700	5.590	8.940	4.700		
7	Nov-2018						1.530	0.170
8	Apr-2019	8.120	18.000	5.320	7.820	4.400	1.220	0.130
9	May-2019	8.600						
10	Jul-2019	5.320						
11	Oct-2019		21.200	4.830	6.610	2.900	4.630	0.100
12	Nov-2019							
13	Jan-2020							
14	Mar-2020						0.290	0.180
15	Apr-2020		12.400	4.810	4.980	3.930		
16	May-2020							
17	Oct-2020	8.610	14.300	4.380	6.290	2.640	0.210	0.130
18	Apr-2021	11.000	21.200	5.290	5.080	3.770	0.700	0.120
19	Oct-2021	10.300	4.540	5.190	4.870	4.290	0.750	0.140
20	Apr-2022	5.800	14.900	4.800	0.960	3.710	0.050	0.380
21	Oct-2022	0.990	9.670	5.160	0.260	6.840		
22	Nov-2022						0.020	0.120
23	Apr-2023	0.480	16.100	4.270	0.840	4.660	0.020	0.170
24	Oct-2023	2.990	2.870	6.140	0.400	4.000	0.020	0.120
25								
Coefficient of Variation:		0.57	0.45	0.13	0.72	1.78	1.12	0.47
Mann-Kendall Statistic (S):		-21	-5	-24	-58	4	-72	9
Confidence Factor:		94.0%	60.6%	94.2%	>99.9%	57.1%	>99.9%	65.1%
Concentration Trend:		Prob. Decreasing	Stable	Prob. Decreasing	Decreasing	No Trend	Decreasing	No Trend



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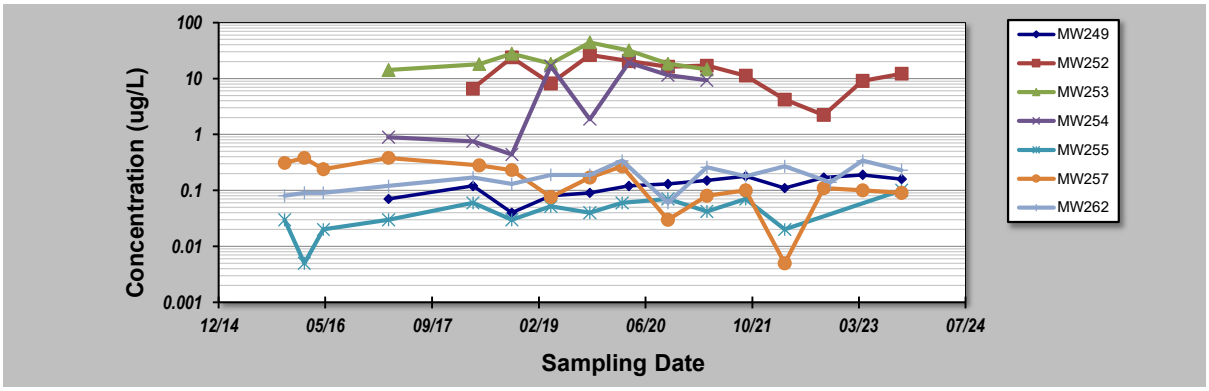
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW249	MW252	MW253	MW254	MW255	MW257	MW262
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Nov-2015					0.030	0.310	0.080
2	Feb-2016					0.005	0.380	0.090
3	Mar-2016							
4	Apr-2016							
5	May-2016					0.020	0.240	0.090
6	Sep-2016							
7	Oct-2016							
8	Jan-2017							
9	Mar-2017	0.070		14.200	0.890	0.030	0.380	0.120
10	Apr-2018	0.120	6.560		0.750	0.060		0.170
11	May-2018			18.000			0.280	
12	Jun-2018							
13	Jul-2018							
14	Sep-2018							
15	Oct-2018	0.040	23.800	27.700	0.440	0.030	0.230	0.130
16	Nov-2018							
17	Apr-2019	0.080	8.140	18.400	16.700	0.052	0.076	0.190
18	May-2019							
19	Jul-2019							
20	Oct-2019	0.090	26.300	44.300	1.880	0.040	0.170	0.190
21	Nov-2019							
22	Jan-2020							
23	Mar-2020					0.060	0.270	0.340
24	Apr-2020	0.120	20.400	31.800	19.200			
25	May-2020							
26	Oct-2020	0.130	16.300	18.400	11.400	0.070	0.030	0.060
27	Apr-2021	0.150	17.000	14.600	9.320	0.042	0.080	0.260
28	Oct-2021	0.180	11.200			0.070	0.100	0.180
29	Apr-2022	0.110	4.200			0.020	0.005	0.270
30	Oct-2022	0.170	2.230				0.110	
31	Nov-2022							0.140
32	Apr-2023	0.190	9.060				0.100	0.340
33	Oct-2023	0.160	12.200			0.100	0.090	0.230
34								
35								
Coefficient of Variation:		0.37	0.59	0.45	1.01	0.56	0.68	0.49
Mann-Kendall Statistic (S):		51	-18	5	10	45	-64	63
Confidence Factor:		100.0%	87.5%	68.3%	86.2%	99.3%	99.8%	99.8%
Concentration Trend:		Increasing	Stable	No Trend	No Trend	Increasing	Decreasing	Increasing



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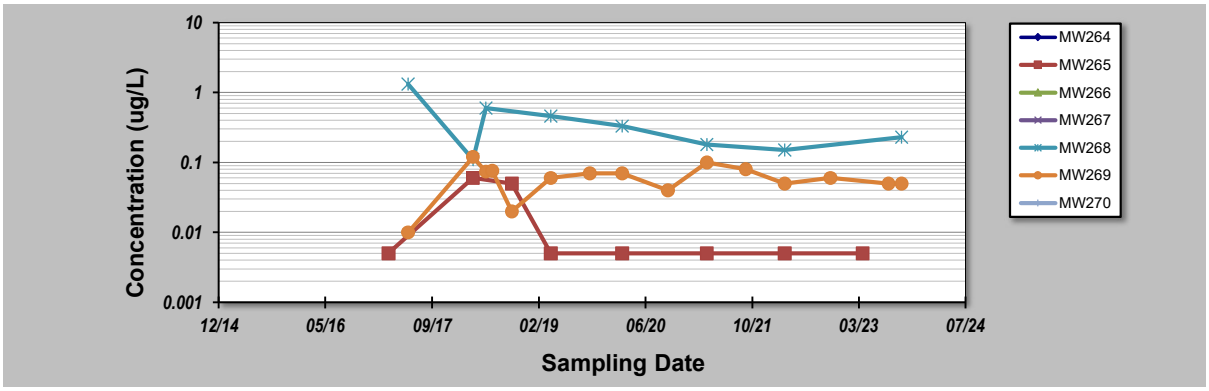
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW264	MW265	MW266	MW267	MW268	MW269	MW270
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Nov-2015							
2	Feb-2016							
3	May-2016							
4	Mar-2017		0.005					
5	Apr-2017							
6	May-2017							
7	Jun-2017					1.320	0.010	
8	Apr-2018		0.060			0.110	0.120	
9	May-2018							
10	Jun-2018					0.600	0.074	
11	Jul-2018						0.076	
12	Sep-2018							
13	Oct-2018		0.050				0.020	
14	Nov-2018							
15	Apr-2019		0.005			0.460	0.060	
16	May-2019							
17	Jul-2019							
18	Oct-2019						0.070	
19	Nov-2019							
20	Jan-2020							
21	Mar-2020		0.005			0.330	0.070	
22	Apr-2020							
23	May-2020							
24	Oct-2020						0.040	
25	Apr-2021		0.005			0.180	0.100	
26	Oct-2021						0.080	
27	Apr-2022		0.005			0.150	0.050	
28	Oct-2022							
29	Nov-2022						0.060	
30	Apr-2023		0.005					
31	Aug-2023						0.050	
32	Oct-2023					0.230	0.050	
33								
34								
35								
Coefficient of Variation:			1.33			0.94	0.45	
Mann-Kendall Statistic (S):			-9			-12	-12	
Confidence Factor:			83.2%			91.1%	70.4%	
Concentration Trend:			No Trend			Prob. Decreasing	Stable	



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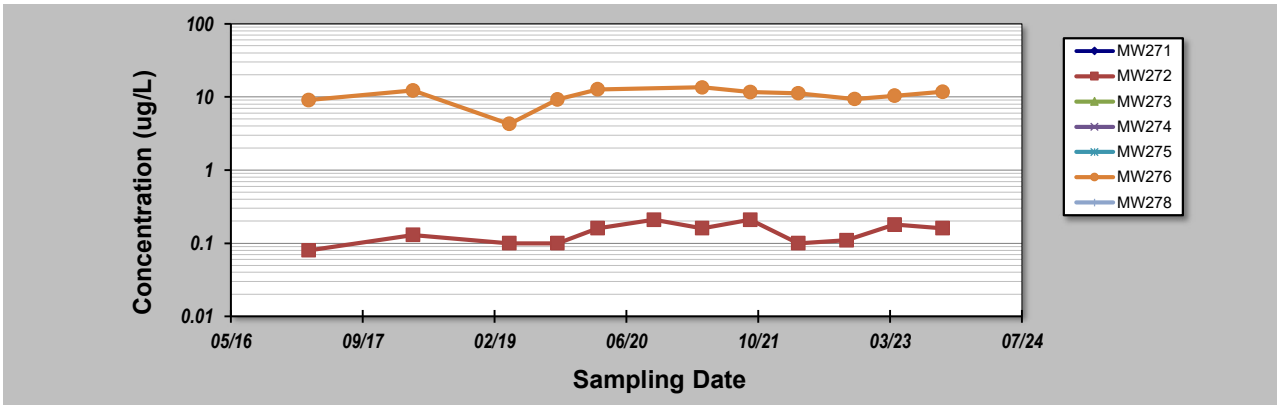
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW271	MW272	MW273	MW274	MW275	MW276	MW278
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Mar-2017		0.080				9.020	
2	Apr-2017							
3	May-2017							
4	Apr-2018		0.130				12.200	
5	Apr-2019		0.100				4.280	
6	Oct-2019		0.100				9.260	
7	Mar-2020		0.160				12.700	
8	Oct-2020		0.210					
9	Apr-2021		0.160				13.500	
10	Oct-2021		0.210				11.600	
11	Apr-2022		0.100				11.200	
12	Oct-2022		0.110					
13	Nov-2022						9.390	
14	Apr-2023		0.180				10.400	
15	Oct-2023		0.160				11.700	
16								
17								
18								
19								
20								
Coefficient of Variation:			0.32				0.24	
Mann-Kendall Statistic (S):			23				9	
Confidence Factor:			93.3%				72.9%	
Concentration Trend:			Prob. Increasing				No Trend	



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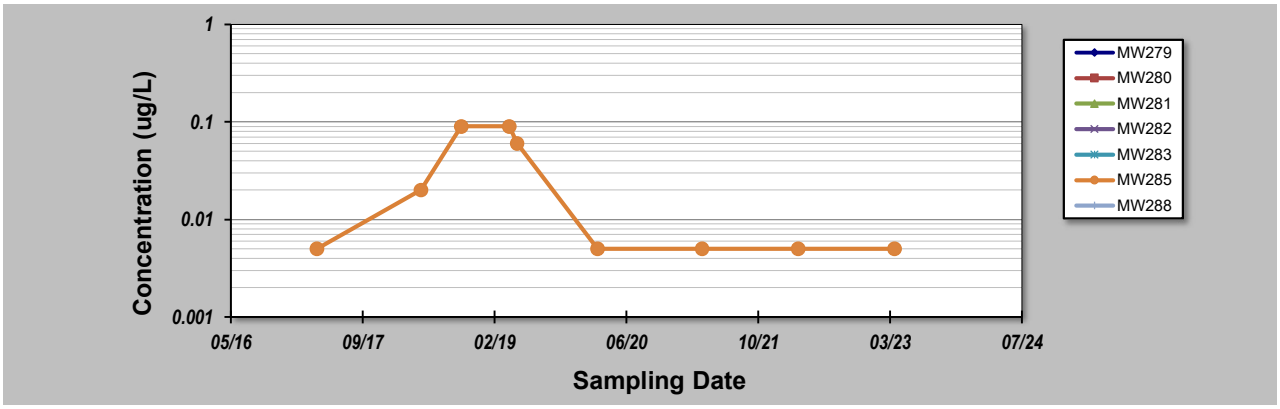
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW279	MW280	MW281	MW282	MW283	MW285	MW288
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Mar-2017							
2	Apr-2017						0.005	
3	May-2017							
4	Jun-2017							
5	Apr-2018							
6	May-2018						0.020	
7	Jun-2018							
8	Jul-2018							
9	Sep-2018							
10	Oct-2018						0.090	
11	Nov-2018							
12	Apr-2019						0.090	
13	May-2019						0.060	
14	Jul-2019							
15	Oct-2019							
16	Nov-2019							
17	Jan-2020							
18	Mar-2020						0.005	
19	Apr-2020							
20	May-2020							
21	Oct-2020							
22	Apr-2021						0.005	
23	Oct-2021							
24	Apr-2022						0.005	
25	Apr-2023						0.005	
26								
27								
28								
29								
30								
Coefficient of Variation:							1.19	
Mann-Kendall Statistic (S):							-11	
Confidence Factor:							84.6%	
Concentration Trend:							No Trend	



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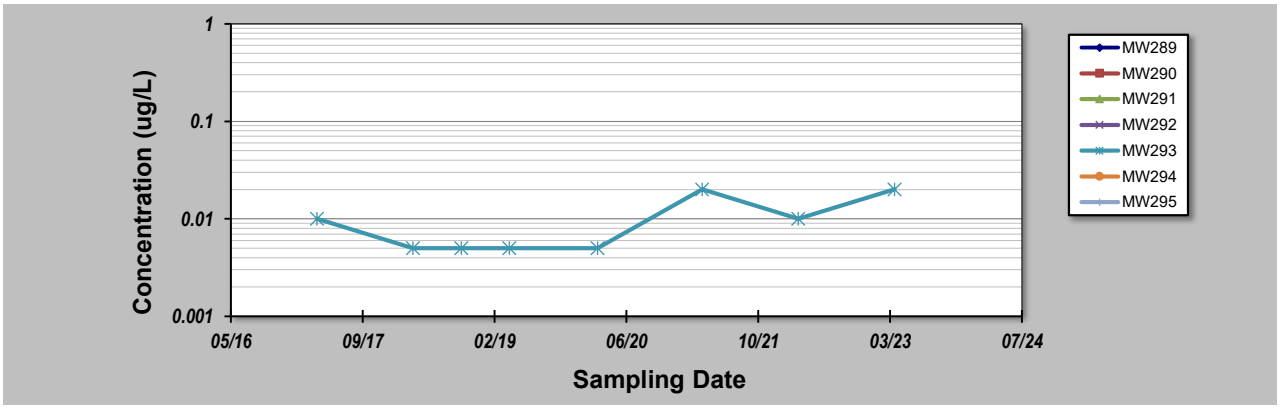
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW289	MW290	MW291	MW292	MW293	MW294	MW295
Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Apr-2017					0.010		
2	May-2017							
3	Jun-2017							
4	Apr-2018					0.005		
5	Oct-2018					0.005		
6	Apr-2019					0.005		
7	Mar-2020					0.005		
8	Apr-2020							
9	May-2020							
10	Oct-2020							
11	Apr-2021					0.020		
12	Oct-2021							
13	Apr-2022					0.010		
14	Apr-2023					0.020		
15								
16								
17								
18								
19								
20								
Coefficient of Variation:						0.65		
Mann-Kendall Statistic (S):						10		
Confidence Factor:						86.2%		
Concentration Trend:						No Trend		



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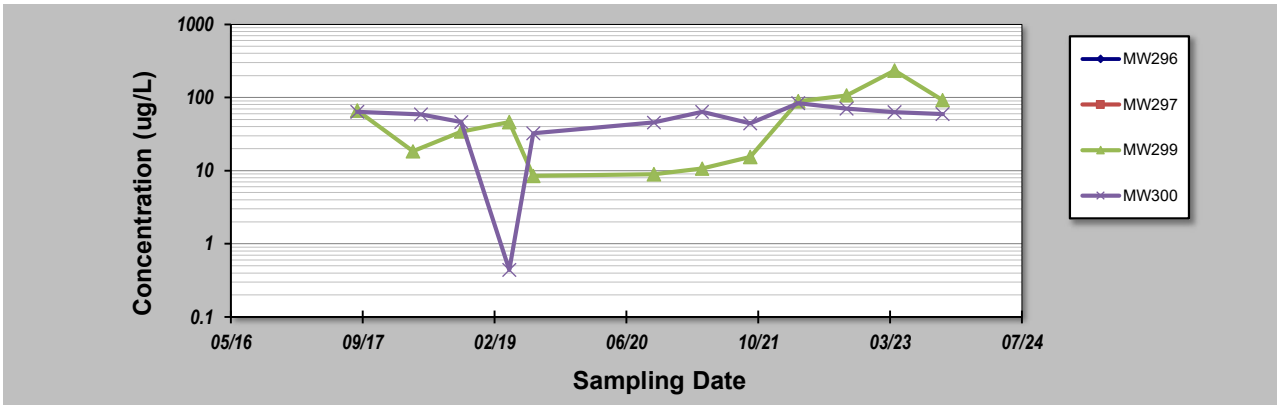
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID: MW296 MW297 MW299 MW300

Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)						
1	Jun-2017							
2	Jul-2017							
3	Aug-2017							
4	Sep-2017			66.500	63.600			
5	Apr-2018			18.400				
6	May-2018				58.700			
7	Jun-2018							
8	Jul-2018							
9	Sep-2018							
10	Oct-2018			34.400	46.100			
11	Nov-2018							
12	Apr-2019			46.100	0.440			
13	May-2019							
14	Jul-2019			8.480	32.300			
15	Oct-2019							
16	Nov-2019							
17	Jan-2020							
18	Mar-2020							
19	Apr-2020							
20	May-2020							
21	Oct-2020			8.940	45.600			
22	Apr-2021			10.700	63.300			
23	Oct-2021			15.400	44.100			
24	Apr-2022			88.500	83.600			
25	Oct-2022			107.000	70.200			
26	Nov-2022							
27	Apr-2023			234.000	63.100			
28	Oct-2023			91.700	59.500			
29								
30								
Coefficient of Variation:				1.07	0.41			
Mann-Kendall Statistic (S):				24	10			
Confidence Factor:				94.2%	72.7%			
Concentration Trend:				Prob. Increasing	No Trend			



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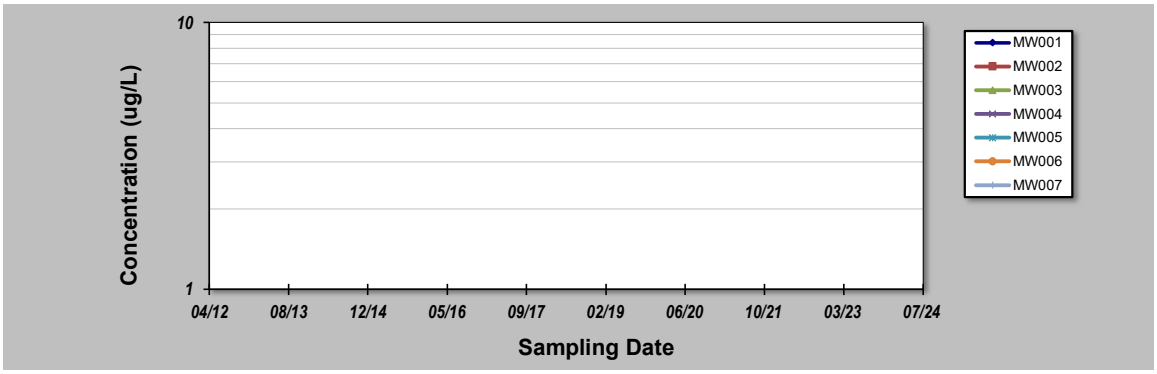
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW001	MW002	MW003	MW004	MW005	MW006	MW007
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Jan-2014							
2	May-2014							
3	Jun-2014							
4	Aug-2014							
5	Oct-2014							
6	Feb-2015							
7	Oct-2015							
8	Nov-2015							
9	Feb-2016							
10	Mar-2016							
11	Apr-2016							
12	May-2016							
13	Sep-2016							
14	Oct-2016							
15	Jan-2017							
16	Mar-2017							
17	Apr-2017							
18	Oct-2018							
19	Nov-2018							
20	Apr-2019							
21	May-2019							
22	Jul-2019							
23	Oct-2019							
24	Nov-2019							
25	Jan-2020							
26	Mar-2020							
27	Apr-2020							
28	May-2020							
29	Oct-2020							
30	Apr-2021							
31	Oct-2021							
32	Apr-2022							
33	Oct-2022							
34	Nov-2022							
35	Oct-2023							
36								
37								
38								
39								
40								
Coefficient of Variation:								
Mann-Kendall Statistic (S):								
Confidence Factor:								
Concentration Trend:								



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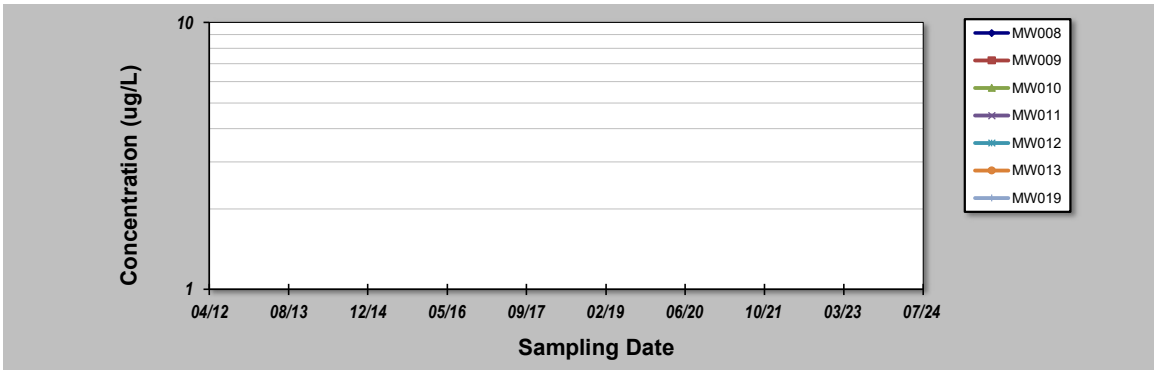
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW008	MW009	MW010	MW011	MW012	MW013	MW019
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Jan-2014							
2	May-2014							
3	Jun-2014							
4	Aug-2014							
5	Oct-2014							
6	Feb-2015							
7	Oct-2015							
8	Nov-2015							
9	Feb-2016							
10	Mar-2016							
11	Apr-2016							
12	May-2016							
13	Sep-2016							
14	Oct-2016							
15	Jan-2017							
16	Mar-2017							
17	Apr-2017							
18	May-2017							
19	Jun-2017							
20	Jul-2017							
21	Aug-2017							
22	Sep-2017							
23	Oct-2017							
24	Nov-2018							
25	Apr-2019							
26	May-2019							
27	Jul-2019							
28	Oct-2019							
29	Nov-2019							
30	Jan-2020							
31	Mar-2020							
32	Apr-2020							
33	May-2020							
34	Oct-2020							
35	Apr-2021							
36	Oct-2021							
37	Apr-2022							
38	Oct-2022							
39	Nov-2022							
40								
Coefficient of Variation:								
Mann-Kendall Statistic (S):								
Confidence Factor:								
Concentration Trend:								



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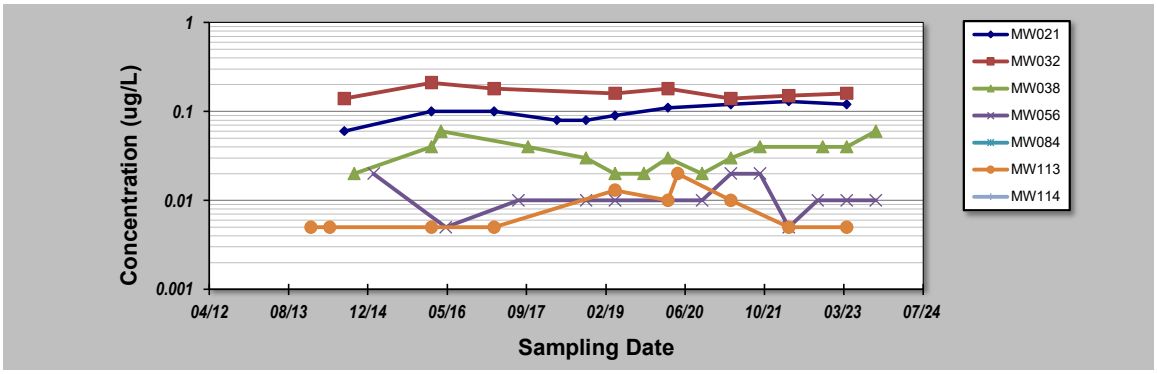
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW021	MW032	MW038	MW056	MW084	MW113	MW114
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Jan-2014						0.005	
2	May-2014						0.005	
3	Jun-2014							
4	Aug-2014	0.060	0.140					
5	Oct-2014			0.020				
6	Feb-2015				0.020			
7	Nov-2015							
8	Feb-2016	0.100	0.210	0.040			0.005	
9	Mar-2016							
10	Apr-2016			0.060				
11	May-2016				0.005			
12	Sep-2016							
13	Mar-2017	0.100	0.180				0.005	
14	Apr-2017							
15	May-2017							
16	Jun-2017							
17	Jul-2017							
18	Aug-2017				0.010			
19	Sep-2017							
20	Oct-2017			0.040				
21	Apr-2018	0.080						
22	Oct-2018	0.080		0.030	0.010			
23	Nov-2018							
24	Apr-2019	0.090	0.160	0.020	0.010		0.013	
25	May-2019							
26	Jul-2019							
27	Oct-2019			0.020				
28	Mar-2020	0.110	0.180	0.030			0.010	
29	Apr-2020							
30	May-2020						0.020	
31	Oct-2020			0.020	0.010			
32	Apr-2021	0.120	0.140	0.030	0.020		0.010	
33	Oct-2021			0.040	0.020			
34	Apr-2022	0.130	0.150		0.005		0.005	
35	Oct-2022				0.010			
36	Nov-2022			0.040				
37	Apr-2023	0.120	0.160	0.040	0.010		0.005	
38	Oct-2023			0.060	0.010			
39								
40								
Coefficient of Variation:		0.21	0.16	0.39	0.45		0.59	
Mann-Kendall Statistic (S):		14	-3	-5	9		15	
Confidence Factor:		94.6%	64.0%	61.9%	83.2%		95.8%	
Concentration Trend:		Prob. Increasing	Stable	Stable	No Trend		Increasing	



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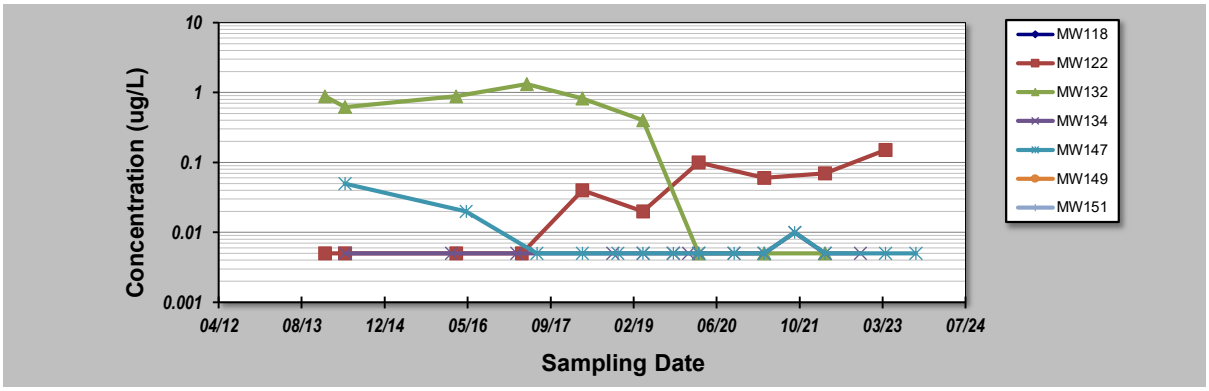
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW118	MW122	MW132	MW134	MW147	MW149	MW151
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Jan-2014		0.005	0.880				
2	May-2014		0.005	0.620	0.005	0.050		
3	Jun-2014							
4	Feb-2016				0.005			
5	Mar-2016		0.005	0.880				
6	Apr-2016							
7	May-2016					0.020		
8	Mar-2017				0.005			
9	Apr-2017		0.005					
10	May-2017			1.320				
11	Jun-2017							
12	Jul-2017					0.005		
13	Apr-2018		0.040	0.820		0.005		
14	Oct-2018				0.005			
15	Nov-2018					0.005		
16	Apr-2019		0.020	0.400	0.005	0.005		
17	May-2019							
18	Jul-2019							
19	Oct-2019				0.005	0.005		
20	Nov-2019							
21	Jan-2020				0.005			
22	Mar-2020		0.100	0.005	0.005	0.005		
23	Apr-2020							
24	May-2020							
25	Oct-2020				0.005	0.005		
26	Apr-2021		0.060	0.005	0.005	0.005		
27	Oct-2021				0.010	0.010		
28	Apr-2022		0.070	0.005	0.005	0.005		
29	Oct-2022							
30	Nov-2022				0.005			
31	Apr-2023		0.150			0.005		
32	Aug-2023							
33	Oct-2023					0.005		
34								
35								
Coefficient of Variation:			1.07	0.87	0.26	1.28		
Mann-Kendall Statistic (S):			33	-22	8	-20		
Confidence Factor:			99.9%	98.8%	66.2%	84.8%		
Concentration Trend:			Increasing	Decreasing	No Trend	No Trend		



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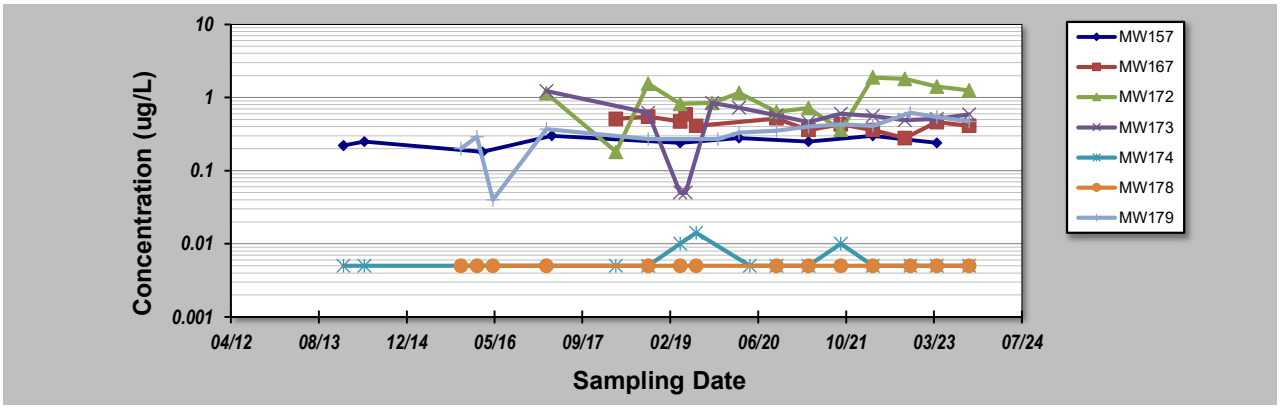
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW157	MW167	MW172	MW173	MW174	MW178	MW179
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Jan-2014	0.220				0.005		
2	May-2014	0.250				0.005		
3	Nov-2015						0.005	0.200
4	Feb-2016						0.005	0.290
5	Mar-2016	0.180						
6	Apr-2016							
7	May-2016						0.005	0.040
8	Mar-2017			1.140	1.230		0.005	0.370
9	Apr-2017	0.300						
10	Apr-2018		0.510	0.180		0.005		
11	Oct-2018		0.550	1.550	0.620	0.005	0.005	0.270
12	Nov-2018							
13	Apr-2019	0.240	0.470	0.820	0.050	0.010	0.005	
14	May-2019		0.590		0.050			
15	Jul-2019		0.412			0.014	0.005	
16	Oct-2019			0.840	0.840			
17	Nov-2019							0.270
18	Jan-2020							
19	Mar-2020	0.280		1.150	0.730			0.330
20	Apr-2020							
21	May-2020					0.005		
22	Oct-2020		0.520	0.640	0.570	0.005	0.005	0.350
23	Apr-2021	0.250	0.360	0.720	0.460	0.005	0.005	0.400
24	Oct-2021		0.430	0.360	0.600	0.010	0.005	0.430
25	Apr-2022	0.300	0.360	1.880	0.560	0.005	0.005	0.410
26	Oct-2022		0.280	1.800	0.490			
27	Nov-2022					0.005	0.005	0.620
28	Apr-2023	0.240	0.460	1.410	0.510	0.005	0.005	0.540
29	Oct-2023		0.410	1.250	0.590	0.005	0.005	0.470
30								
Coefficient of Variation:		0.15	0.20	0.50	0.54	0.45	0.00	0.41
Mann-Kendall Statistic (S):		9	-31	16	-15	-3	0	66
Confidence Factor:		79.2%	98.1%	81.6%	79.9%	54.3%	47.8%	>99.9%
Concentration Trend:		No Trend	Decreasing	No Trend	Stable	Stable	Stable	Increasing



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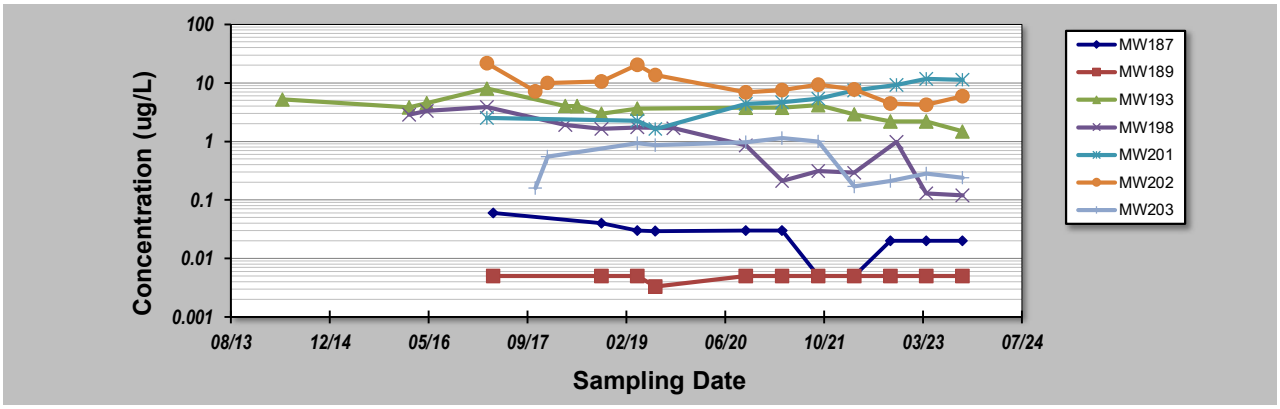
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW187	MW189	MW193	MW198	MW201	MW202	MW203
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	May-2014			5.200				
2	Feb-2016			3.820	2.850			
3	May-2016			4.480	3.330			
4	Mar-2017			7.980	3.870	2.510	21.800	
5	Apr-2017	0.060	0.005					
6	Nov-2017						7.130	0.160
7	Dec-2017							
8	Jan-2018						9.980	0.550
9	Feb-2018							
10	Mar-2018							
11	Apr-2018			4.020	1.900			
12	May-2018							
13	Jun-2018			4.000				
14	Jul-2018							
15	Sep-2018							
16	Oct-2018	0.040	0.005	2.960	1.640		10.500	
17	Nov-2018							
18	Apr-2019	0.030	0.005	3.630	1.740	2.260	20.500	0.930
19	May-2019							
20	Jul-2019	0.029	0.003			1.630	13.600	0.863
21	Oct-2019				1.670			
22	Oct-2020	0.030	0.005	3.740	0.860	4.360	6.870	0.960
23	Apr-2021	0.030	0.005	3.800	0.210	4.670	7.510	1.140
24	Oct-2021	0.005	0.005	4.160	0.310	5.410	9.330	1.000
25	Apr-2022	0.005	0.005	2.910	0.290	7.460	7.750	0.170
26	Oct-2022	0.020	0.005	2.200			4.450	0.210
27	Nov-2022				0.980	9.200		
28	Apr-2023	0.020	0.005	2.200	0.130	11.700	4.220	0.280
29	Oct-2023	0.020	0.005	1.480	0.120	11.300	5.950	0.240
30								
Coefficient of Variation:		0.59	0.11	0.40	0.87	0.61	0.56	0.66
Mann-Kendall Statistic (S):		-32	4	-66	-69	37	-40	1
Confidence Factor:		99.4%	59.0%	>99.9%	>99.9%	>99.9%	99.3%	50.0%
Concentration Trend:		Decreasing	No Trend	Decreasing	Decreasing	Increasing	Decreasing	No Trend



Notes:

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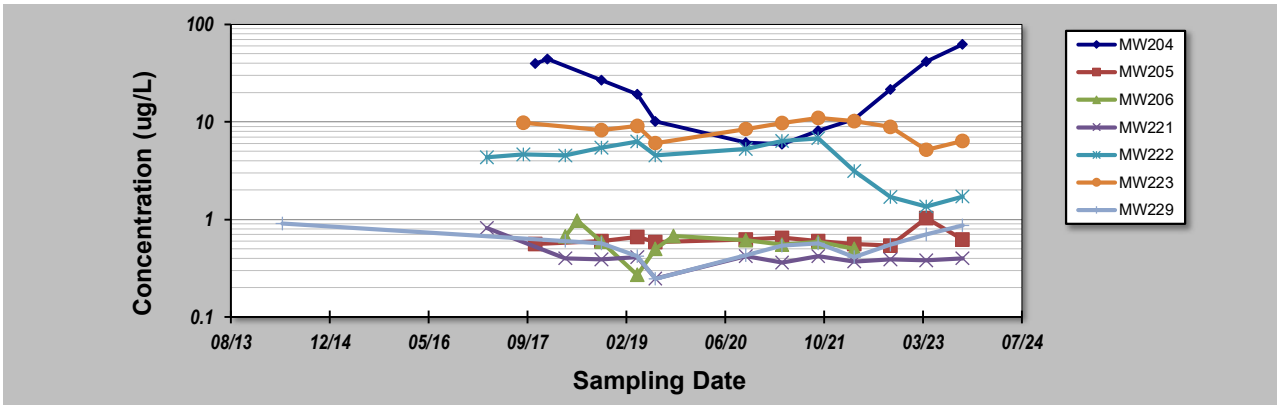
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW204	MW205	MW206	MW221	MW222	MW223	MW229
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	May-2014							0.910
2	Mar-2017				0.820	4.340		
3	Sep-2017					4.660	9.800	
4	Oct-2017							
5	Nov-2017	39.700	0.560					
6	Dec-2017							
7	Jan-2018	44.200						
8	Feb-2018							
9	Mar-2018							
10	Apr-2018			0.670	0.400	4.520		0.600
11	May-2018							
12	Jun-2018			0.970				
13	Jul-2018							
14	Sep-2018							
15	Oct-2018	26.800	0.600	0.590	0.390	5.450	8.240	0.570
16	Nov-2018							
17	Apr-2019	19.200	0.660	0.270	0.410	6.320	9.100	0.420
18	May-2019							
19	Jul-2019	10.100	0.584	0.499	0.248	4.520	6.070	0.246
20	Oct-2019			0.678				
21	Oct-2020	6.120	0.620	0.610	0.420	5.280	8.440	0.430
22	Apr-2021	5.900	0.650	0.550	0.360	6.370	9.720	0.540
23	Oct-2021	8.140	0.600	0.590	0.420	6.800	11.000	0.570
24	Apr-2022	10.600	0.560	0.500	0.370	3.140	10.200	0.410
25	Oct-2022	21.600	0.540		0.390	1.700	8.860	0.550
26	Apr-2023	41.500	1.030		0.380	1.360	5.180	0.700
27	Oct-2023	62.400	0.620		0.400	1.720	6.360	0.870
28								
29								
30								
Coefficient of Variation:		0.75	0.21	0.30	0.32	0.43	0.22	0.33
Mann-Kendall Statistic (S):		0	4	-12	-11	-15	-7	3
Confidence Factor:		47.3%	59.0%	83.2%	74.9%	79.9%	67.6%	55.4%
Concentration Trend:		Stable	No Trend	Stable	Stable	Stable	Stable	No Trend



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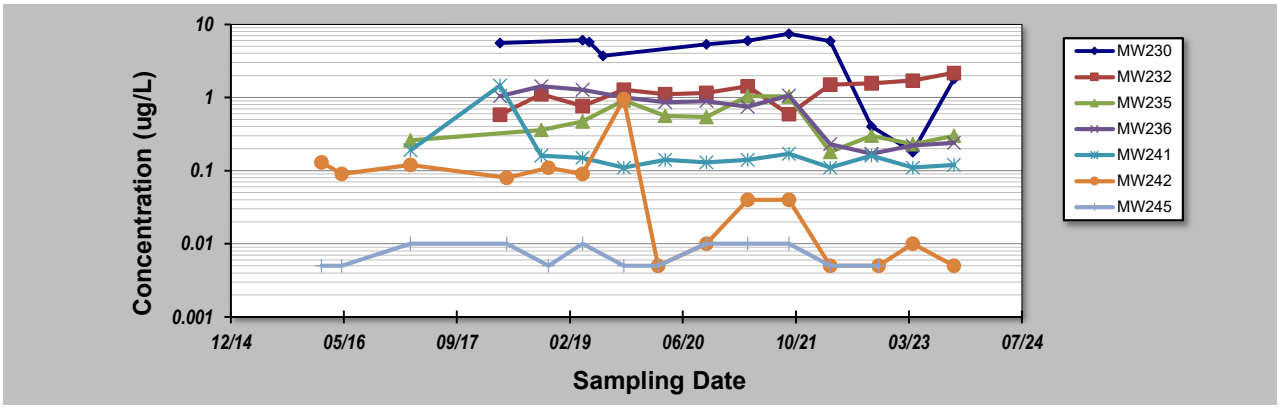
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW230	MW232	MW235	MW236	MW241	MW242	MW245
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Feb-2016						0.130	0.005
2	May-2016						0.090	0.005
3	Mar-2017			0.260		0.190	0.120	0.010
4	Apr-2018	5.560	0.580		1.050	1.450		
5	May-2018						0.080	0.010
6	Jun-2018							
7	Jul-2018							
8	Sep-2018							
9	Oct-2018		1.110	0.360	1.430	0.160		
10	Nov-2018						0.110	0.005
11	Apr-2019	6.100	0.760	0.470	1.270	0.150	0.090	0.010
12	May-2019	5.700						
13	Jul-2019	3.720						
14	Oct-2019		1.280	0.910	1.000	0.110	0.950	0.005
15	Nov-2019							
16	Jan-2020							
17	Mar-2020						0.005	0.005
18	Apr-2020		1.110	0.560	0.860	0.140		
19	May-2020							
20	Oct-2020	5.320	1.160	0.540	0.890	0.130	0.010	0.010
21	Apr-2021	5.960	1.420	1.040	0.750	0.140	0.040	0.010
22	Oct-2021	7.440	0.590	1.030	1.060	0.170	0.040	0.010
23	Apr-2022	5.870	1.500	0.180	0.230	0.110	0.005	0.005
24	Oct-2022	0.400	1.560	0.300	0.170	0.160		
25	Nov-2022						0.005	0.005
26	Apr-2023	0.180	1.700	0.230	0.220	0.110	0.010	
27	Oct-2023	1.810	2.170	0.300	0.240	0.120	0.005	
28								
29								
30								
Coefficient of Variation:		0.57	0.38	0.61	0.58	1.51	2.10	0.36
Mann-Kendall Statistic (S):		-17	47	-5	-42	-33	-60	2
Confidence Factor:		89.1%	>99.9%	60.6%	99.8%	97.5%	99.9%	52.4%
Concentration Trend:		Stable	Increasing	Stable	Decreasing	Decreasing	Decreasing	No Trend



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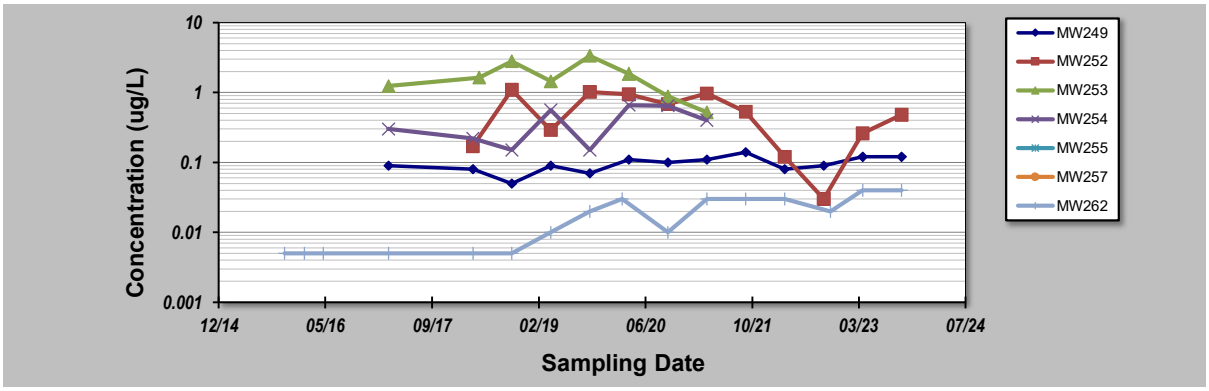
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW249	MW252	MW253	MW254	MW255	MW257	MW262
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Nov-2015							0.005
2	Feb-2016							0.005
3	Mar-2016							
4	Apr-2016							
5	May-2016							0.005
6	Sep-2016							
7	Oct-2016							
8	Jan-2017							
9	Mar-2017	0.090		1.230	0.300			0.005
10	Apr-2018	0.080	0.170		0.220			0.005
11	May-2018			1.630				
12	Jun-2018							
13	Jul-2018							
14	Sep-2018							
15	Oct-2018	0.050	1.090	2.800	0.150			0.005
16	Nov-2018							
17	Apr-2019	0.090	0.290	1.450	0.560			0.010
18	May-2019							
19	Jul-2019							
20	Oct-2019	0.070	1.020	3.330	0.150			0.020
21	Nov-2019							
22	Jan-2020							
23	Mar-2020							0.030
24	Apr-2020	0.110	0.940	1.840	0.660			
25	May-2020							
26	Oct-2020	0.100	0.680	0.880	0.650			0.010
27	Apr-2021	0.110	0.970	0.520	0.400			0.030
28	Oct-2021	0.140	0.530					0.030
29	Apr-2022	0.080	0.120					0.030
30	Oct-2022	0.090	0.030					
31	Nov-2022							0.020
32	Apr-2023	0.120	0.260					0.040
33	Oct-2023	0.120	0.480					0.040
34								
35								
Coefficient of Variation:		0.25	0.70	0.55	0.55			0.74
Mann-Kendall Statistic (S):		34	-22	-6	7			84
Confidence Factor:		97.9%	92.4%	72.6%	76.4%			>99.9%
Concentration Trend:		Increasing	Prob. Decreasing	Stable	No Trend			Increasing



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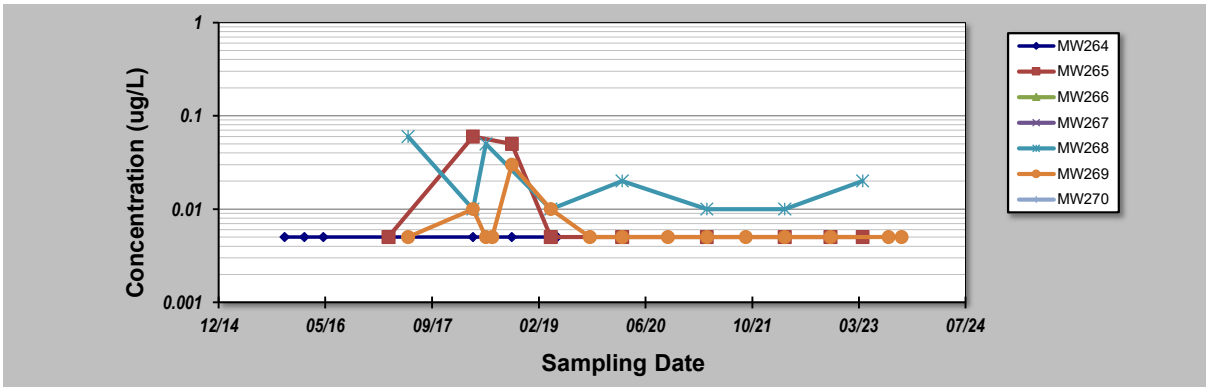
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW264	MW265	MW266	MW267	MW268	MW269	MW270
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Nov-2015	0.005						
2	Feb-2016	0.005						
3	May-2016	0.005						
4	Mar-2017	0.005	0.005					
5	Apr-2017							
6	May-2017							
7	Jun-2017					0.060	0.005	
8	Apr-2018	0.005	0.060			0.010	0.010	
9	May-2018							
10	Jun-2018					0.050	0.005	
11	Jul-2018						0.005	
12	Sep-2018							
13	Oct-2018	0.005	0.050				0.030	
14	Nov-2018							
15	Apr-2019	0.005	0.005			0.010	0.010	
16	May-2019	0.005						
17	Jul-2019							
18	Oct-2019	0.005					0.005	
19	Nov-2019							
20	Jan-2020							
21	Mar-2020		0.005			0.020	0.005	
22	Apr-2020							
23	May-2020							
24	Oct-2020	0.005					0.005	
25	Apr-2021	0.005	0.005			0.010	0.005	
26	Oct-2021	0.005					0.005	
27	Apr-2022	0.005	0.005			0.010	0.005	
28	Oct-2022							
29	Nov-2022		0.005				0.005	
30	Apr-2023		0.005			0.020		
31	Aug-2023						0.005	
32	Oct-2023						0.005	
33								
34								
35								
Coefficient of Variation:		0.00	1.38			0.84	0.89	
Mann-Kendall Statistic (S):		0	-11			-7	-22	
Confidence Factor:		47.6%	84.6%			76.4%	84.8%	
Concentration Trend:		Stable	No Trend			Stable	Stable	



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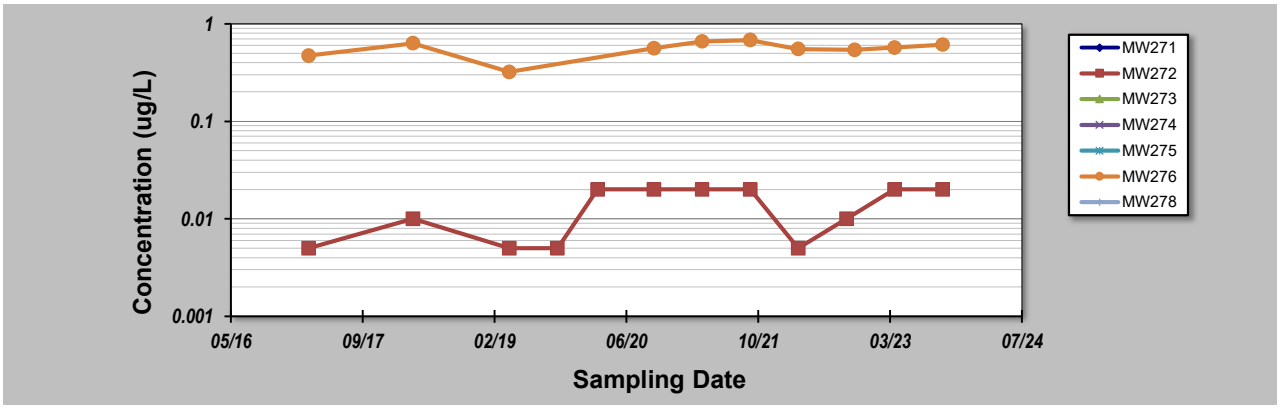
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW271	MW272	MW273	MW274	MW275	MW276	MW278
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Mar-2017		0.005				0.470	
2	Apr-2017							
3	May-2017							
4	Apr-2018		0.010				0.630	
5	Apr-2019		0.005				0.320	
6	Oct-2019		0.005					
7	Mar-2020		0.020					
8	Apr-2020							
9	May-2020							
10	Oct-2020		0.020				0.560	
11	Apr-2021		0.020				0.660	
12	Oct-2021		0.020				0.680	
13	Apr-2022		0.005				0.550	
14	Oct-2022		0.010					
15	Nov-2022						0.540	
16	Apr-2023		0.020				0.570	
17	Oct-2023		0.020				0.610	
18								
19								
20								
Coefficient of Variation:			0.54				0.19	
Mann-Kendall Statistic (S):			22				9	
Confidence Factor:			92.4%				75.8%	
Concentration Trend:			Prob. Increasing				No Trend	



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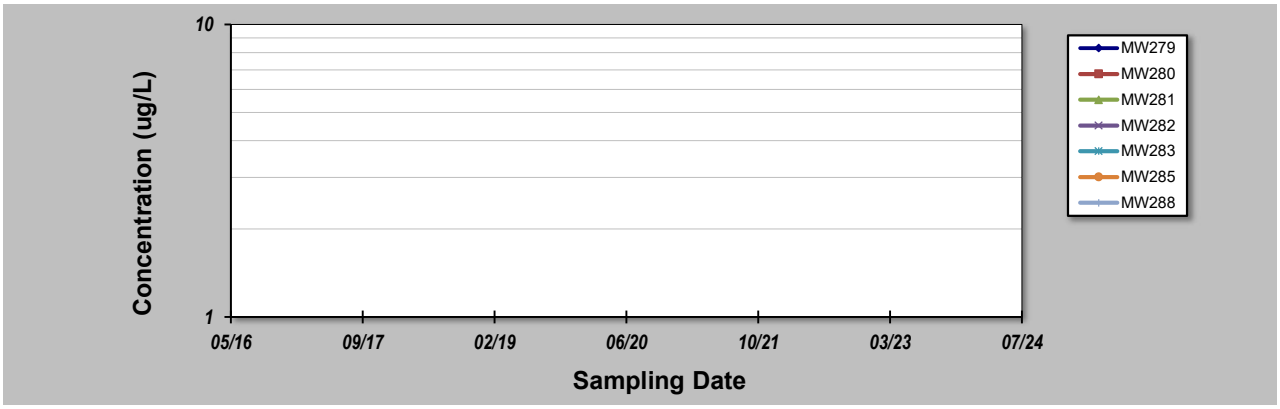
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW279	MW280	MW281	MW282	MW283	MW285	MW288
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Mar-2017							
2	Apr-2017							
3	May-2017							
4	Jun-2017							
5	Apr-2018							
6	May-2018							
7	Jun-2018							
8	Jul-2018							
9	Sep-2018							
10	Oct-2018							
11	Nov-2018							
12	Apr-2019							
13	May-2019							
14	Jul-2019							
15	Oct-2019							
16	Nov-2019							
17	Jan-2020							
18	Mar-2020							
19	Apr-2020							
20	May-2020							
21	Oct-2020							
22	Apr-2021							
23	Oct-2021							
24	Apr-2022							
25	Apr-2023							
26								
27								
28								
29								
30								
Coefficient of Variation:								
Mann-Kendall Statistic (S):								
Confidence Factor:								
Concentration Trend:								



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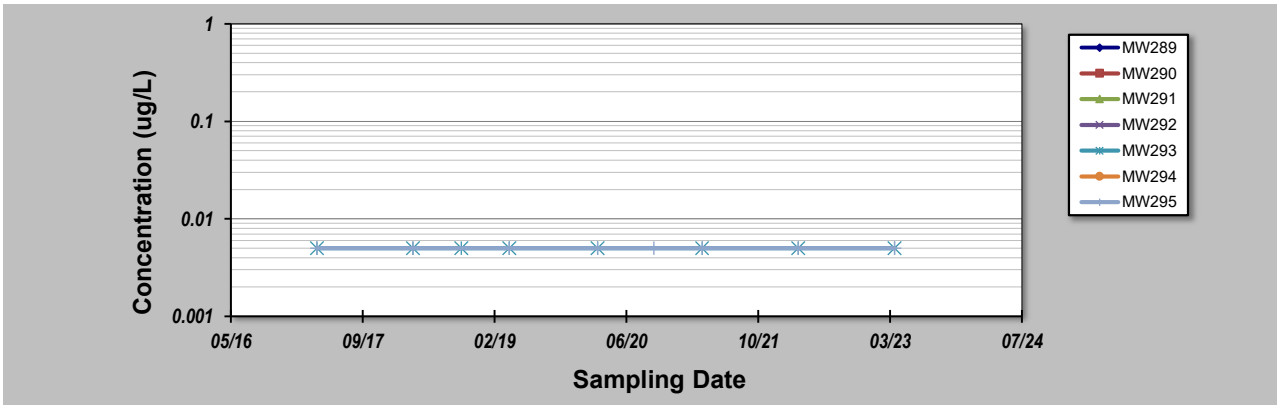
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	17-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW289	MW290	MW291	MW292	MW293	MW294	MW295
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Apr-2017					0.005		0.005
2	May-2017							
3	Jun-2017							
4	Apr-2018					0.005		0.005
5	Oct-2018					0.005		
6	Apr-2019					0.005		0.005
7	Mar-2020					0.005		0.005
8	Apr-2020							
9	May-2020							
10	Oct-2020							0.005
11	Apr-2021					0.005		0.005
12	Oct-2021							
13	Apr-2022					0.005		0.005
14	Apr-2023					0.005		0.005
15								
16								
17								
18								
19								
20								
Coefficient of Variation:						0.00		0.00
Mann-Kendall Statistic (S):						0		0
Confidence Factor:						45.2%		45.2%
Concentration Trend:						Stable		Stable



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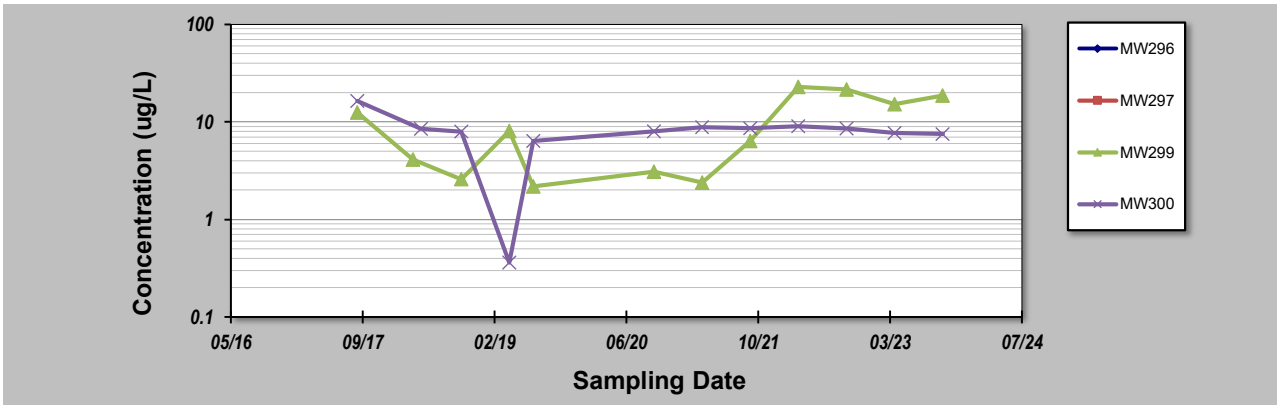
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW296	MW297	MW299	MW300			
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	Jun-2017							
2	Sep-2017			12.500	16.400			
3	Apr-2018			4.130				
4	May-2018				8.500			
5	Jun-2018							
6	Jul-2018							
7	Sep-2018							
8	Oct-2018			2.580	7.970			
9	Nov-2018							
10	Apr-2019			8.060	0.360			
11	May-2019							
12	Jul-2019			2.180	6.380			
13	Oct-2019							
14	Nov-2019							
15	Jan-2020							
16	Mar-2020							
17	Apr-2020							
18	May-2020							
19	Oct-2020			3.100	8.020			
20	Apr-2021			2.380	8.830			
21	Oct-2021			6.390	8.590			
22	Apr-2022			22.900	9.030			
23	Oct-2022			21.600	8.560			
24	Nov-2022							
25	Apr-2023			15.200	7.720			
26	Oct-2023			18.600	7.520			
27								
28								
29								
30								
Coefficient of Variation:				0.79	0.43			
Mann-Kendall Statistic (S):				20	-6			
Confidence Factor:				90.2%	63.1%			
Concentration Trend:				Prob. Increasing	Stable			



Notes:

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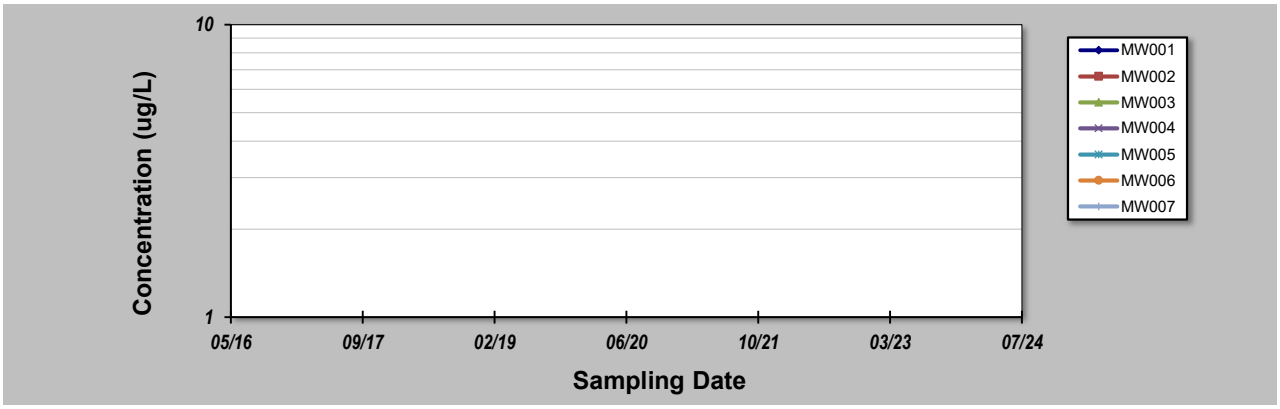
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW001	MW002	MW003	MW004	MW005	MW006	MW007
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2017							
2	Apr-2017							
3	Oct-2018							
4	Nov-2018							
5	Apr-2019							
6	May-2019							
7	Jul-2019							
8	Oct-2019							
9	Nov-2019							
10	Jan-2020							
11	Mar-2020							
12	Apr-2020							
13	May-2020							
14	Oct-2020							
15	Apr-2021							
16	Oct-2021							
17	Apr-2022							
18	Oct-2022							
19	Nov-2022							
20	Apr-2023							
21	Oct-2023							
22								
23								
24								
25								
Coefficient of Variation:								
Mann-Kendall Statistic (S):								
Confidence Factor:								
Concentration Trend:								



Notes:

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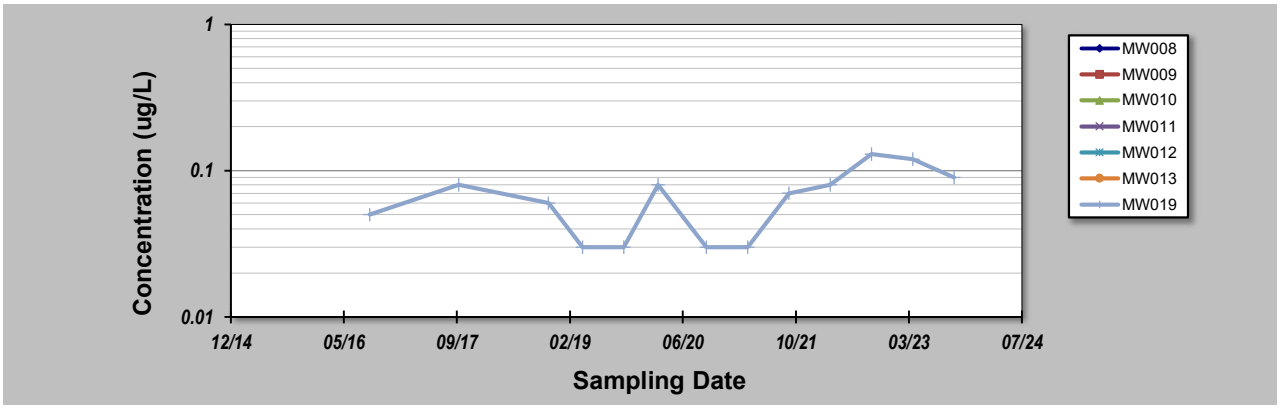
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW008	MW009	MW010	MW011	MW012	MW013	MW019
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Feb-2016							
2	Sep-2016							0.050
3	Oct-2016							
4	Jan-2017							
5	Mar-2017							
6	Apr-2017							
7	May-2017							
8	Jun-2017							
9	Jul-2017							
10	Aug-2017							
11	Sep-2017							
12	Oct-2017							0.080
13	Nov-2018							0.060
14	Apr-2019							0.030
15	May-2019							
16	Jul-2019							
17	Oct-2019							0.030
18	Nov-2019							
19	Jan-2020							
20	Mar-2020							0.080
21	Apr-2020							
22	May-2020							
23	Oct-2020							0.030
24	Apr-2021							0.030
25	Oct-2021							0.070
26	Apr-2022							0.080
27	Oct-2022							0.130
28	Apr-2023							0.120
29	Oct-2023							0.090
30								
Coefficient of Variation:								0.50
Mann-Kendall Statistic (S):								29
Confidence Factor:								95.6%
Concentration Trend:								Increasing



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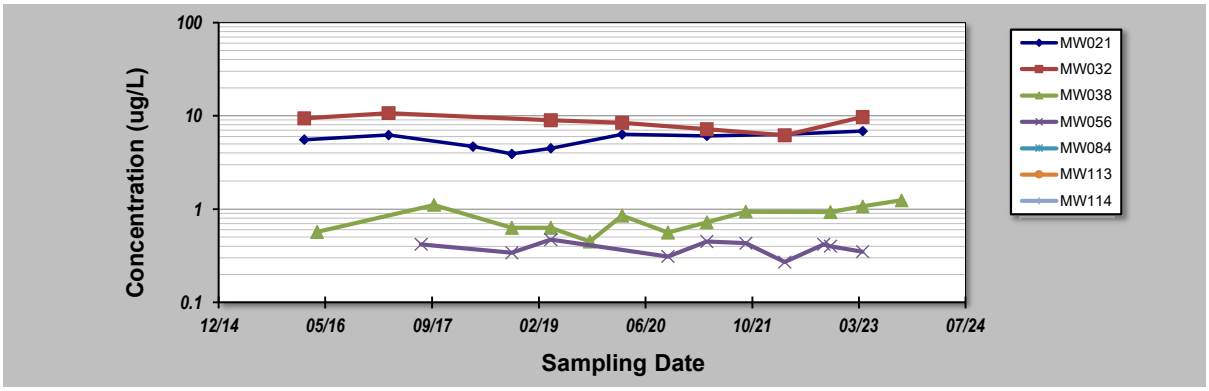
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW021	MW032	MW038	MW056	MW084	MW113	MW114
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Feb-2016	5.560	9.380					
2	Mar-2016							
3	Apr-2016			0.570				
4	May-2016							
5	Sep-2016							
6	Oct-2016							
7	Jan-2017							
8	Mar-2017	6.220	10.680					
9	Apr-2017							
10	Aug-2017				0.420			
11	Sep-2017							
12	Oct-2017			1.110				
13	Apr-2018	4.680						
14	Oct-2018	3.900		0.630	0.340			
15	Nov-2018							
16	Apr-2019	4.490	8.950	0.630	0.470			
17	May-2019							
18	Jul-2019							
19	Oct-2019			0.450				
20	Nov-2019							
21	Jan-2020							
22	Mar-2020	6.310	8.420	0.850				
23	Apr-2020							
24	May-2020							
25	Oct-2020			0.560	0.310			
26	Apr-2021	6.100	7.180	0.720	0.450			
27	Oct-2021			0.940	0.430			
28	Apr-2022	6.330	6.180		0.270			
29	Oct-2022				0.420			
30	Nov-2022			0.930	0.400			
31	Apr-2023	6.850	9.710	1.070	0.350			
32	Oct-2023			1.240				
33								
34								
35								
Coefficient of Variation:		0.18	0.18	0.31	0.17			
Mann-Kendall Statistic (S):		16	-9	29	-10			
Confidence Factor:		94.0%	88.1%	97.4%	78.4%			
Concentration Trend:		Prob. Increasing	Stable	Increasing	Stable			



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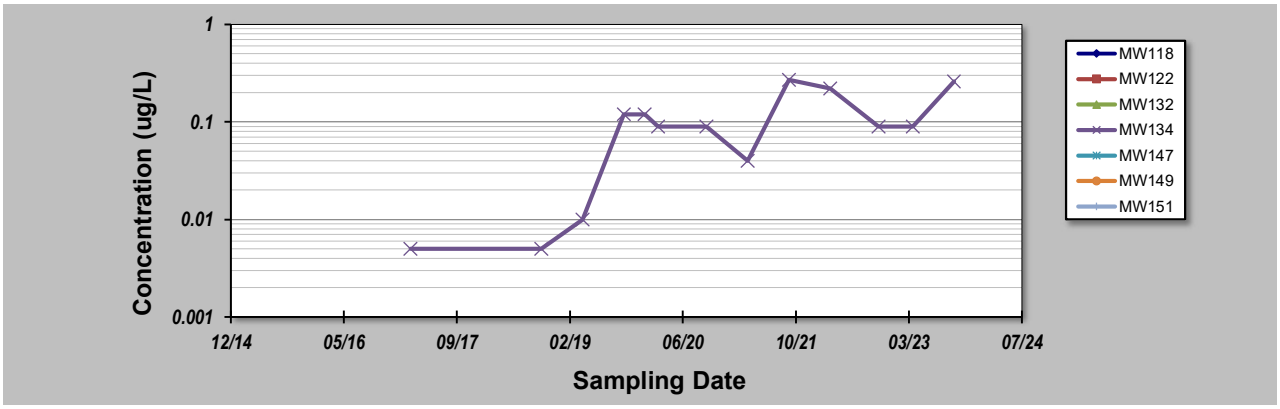
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW118	MW122	MW132	MW134	MW147	MW149	MW151
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2016							
2	Mar-2017				0.005			
3	Apr-2017							
4	May-2017							
5	Jun-2017							
6	Jul-2017							
7	Apr-2018							
8	Oct-2018				0.005			
9	Nov-2018							
10	Apr-2019				0.010			
11	May-2019							
12	Jul-2019							
13	Oct-2019				0.120			
14	Nov-2019							
15	Jan-2020				0.120			
16	Mar-2020				0.090			
17	Apr-2020							
18	May-2020							
19	Oct-2020				0.090			
20	Apr-2021				0.040			
21	Oct-2021				0.270			
22	Apr-2022				0.220			
23	Oct-2022							
24	Nov-2022				0.090			
25	Apr-2023				0.090			
26	Aug-2023							
27	Oct-2023				0.260			
28								
29								
30								
Coefficient of Variation:					0.84			
Mann-Kendall Statistic (S):					34			
Confidence Factor:					97.9%			
Concentration Trend:					Increasing			



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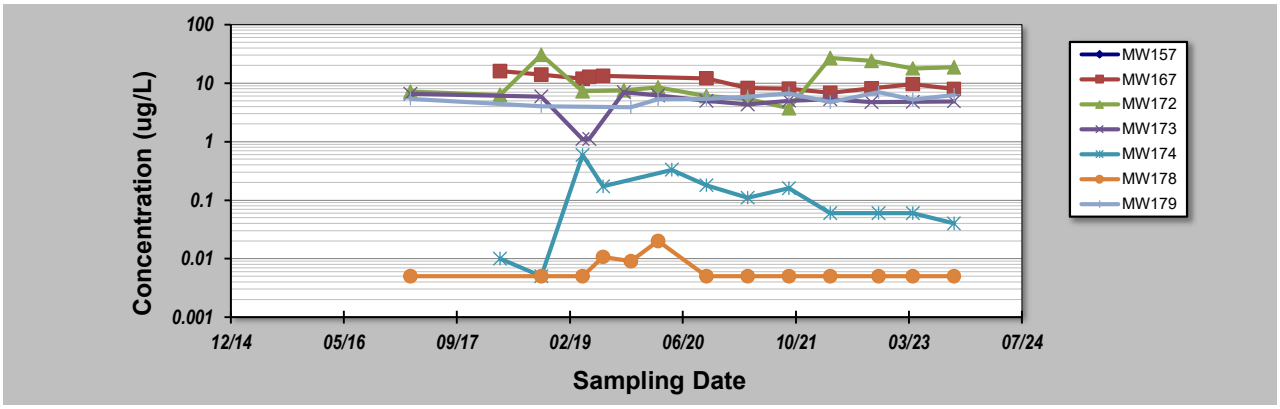
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW157	MW167	MW172	MW173	MW174	MW178	MW179
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2016							
2	Mar-2017			7.100	6.590		0.005	5.400
3	Apr-2017							
4	Apr-2018		16.000	6.280		0.010		
5	Oct-2018		13.900	30.500	5.870	0.005	0.005	4.010
6	Nov-2018							
7	Apr-2019		11.800	7.280	1.100	0.590	0.005	
8	May-2019		12.700		1.110			
9	Jul-2019		13.300			0.171	0.011	
10	Oct-2019			7.520	7.030			
11	Nov-2019						0.009	3.860
12	Jan-2020							
13	Mar-2020			8.500	6.170		0.020	5.280
14	Apr-2020							
15	May-2020					0.330		
16	Oct-2020		12.100	6.010	4.940	0.180	0.005	5.310
17	Apr-2021		8.230	5.340	4.330	0.110	0.005	5.880
18	Oct-2021		8.040	3.700	5.000	0.160	0.005	6.650
19	Apr-2022		6.820	26.700	5.270	0.060	0.005	4.720
20	Oct-2022		8.170	24.100	4.760			
21	Nov-2022					0.060	0.005	6.950
22	Apr-2023		9.650	17.800	4.800	0.060	0.005	5.250
23	Oct-2023		7.970	18.600	4.880	0.040	0.005	6.250
24								
25								
Coefficient of Variation:			0.27	0.71	0.38	1.13	0.63	0.18
Mann-Kendall Statistic (S):			-44	10	-12	-17	-11	19
Confidence Factor:			99.9%	70.5%	74.5%	86.0%	72.5%	91.8%
Concentration Trend:			Decreasing	No Trend	Stable	No Trend	Stable	Prob. Increasing



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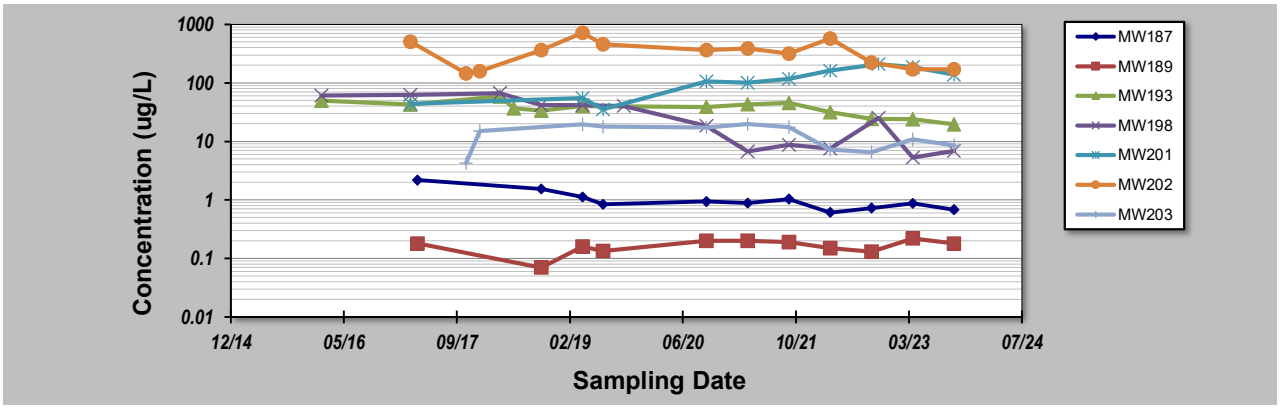
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW187	MW189	MW193	MW198	MW201	MW202	MW203
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Feb-2016			49.500	60.900			
2	Mar-2017			42.700	62.500	43.800	505.000	
3	Apr-2017	2.180	0.180					
4	Nov-2017						145.000	4.250
5	Dec-2017							
6	Jan-2018						159.000	15.000
7	Apr-2018			58.600	66.800			
8	May-2018							
9	Jun-2018			36.940				
10	Jul-2018							
11	Sep-2018							
12	Oct-2018	1.550	0.070	33.600	41.700		363.000	
13	Nov-2018							
14	Apr-2019	1.120	0.160	39.800	41.700	54.900	715.000	19.500
15	May-2019							
16	Jul-2019	0.838	0.135			35.200	458.000	17.900
17	Oct-2019				40.200			
18	Oct-2020	0.940	0.200	38.800	18.500	105.000	362.000	17.300
19	Apr-2021	0.890	0.200	42.900	6.680	101.000	386.000	19.800
20	Oct-2021	1.040	0.190	45.400	8.730	117.000	316.000	17.500
21	Apr-2022	0.610	0.150	31.500	7.550	162.000	575.000	7.280
22	Oct-2022	0.730	0.130	24.300			222.000	6.560
23	Nov-2022				25.100	210.000		
24	Apr-2023	0.870	0.220	24.100	5.300	186.000	171.000	10.800
25	Oct-2023	0.680	0.180	19.600	6.890	139.000	171.000	8.560
26								
27								
28								
29								
30								
Coefficient of Variation:		0.44	0.26	0.29	0.77	0.52	0.51	0.44
Mann-Kendall Statistic (S):		-35	9	-44	-55	31	-13	-9
Confidence Factor:		99.7%	72.9%	99.7%	>99.9%	99.8%	76.4%	72.9%
Concentration Trend:		Decreasing	No Trend	Decreasing	Decreasing	Increasing	Stable	Stable



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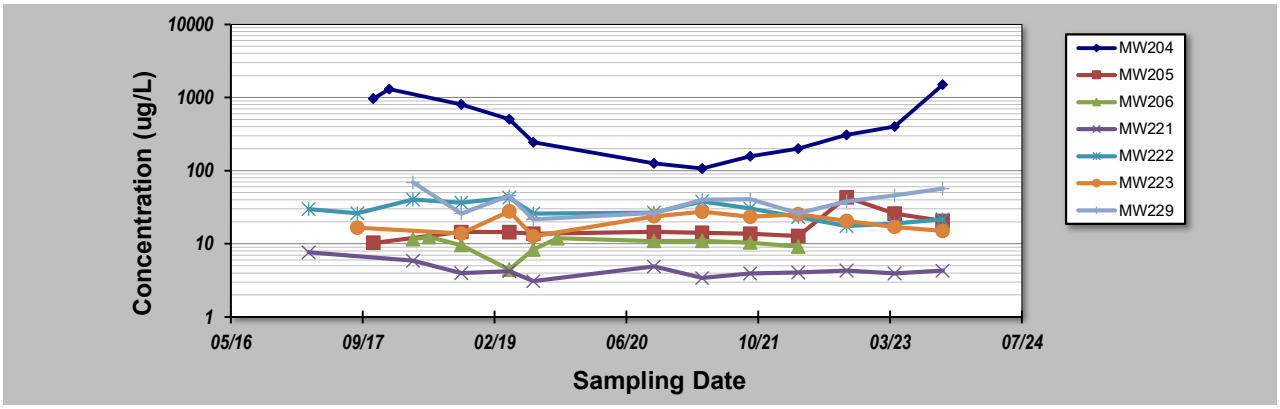
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW204	MW205	MW206	MW221	MW222	MW223	MW229
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2017				7.620	29.650		
2	Sep-2017					26.200	16.600	
3	Oct-2017							
4	Nov-2017	965.000	10.300					
5	Dec-2017							
6	Jan-2018	1300.000						
7	Feb-2018							
8	Mar-2018							
9	Apr-2018			11.600	5.860	40.300		69.200
10	May-2018							
11	Jun-2018			12.350				
12	Jul-2018							
13	Sep-2018							
14	Oct-2018	805.000	14.500	9.570	3.950	36.500	13.900	26.000
15	Nov-2018							
16	Apr-2019	508.000	14.400	4.460	4.240	42.900	27.900	45.300
17	May-2019							
18	Jul-2019	243.000	13.700	8.350	3.080	25.900	12.700	21.600
19	Oct-2019			11.900				
20	Oct-2020	126.000	14.500	10.900	4.890	26.700	23.700	26.300
21	Apr-2021	107.000	14.200	11.000	3.400	38.000	27.500	39.800
22	Oct-2021	157.000	13.800	10.400	3.940	30.400	23.500	40.800
23	Apr-2022	200.000	12.800	9.190	4.040	23.200	25.300	26.200
24	Oct-2022	307.000	43.100		4.310	17.400	20.600	38.200
25	Apr-2023	401.000	26.000		3.940	19.000	17.000	46.000
26	Oct-2023	1500.000	20.600		4.300	21.600	15.100	56.600
27								
28								
29								
30								
Coefficient of Variation:		0.87	0.52	0.23	0.27	0.28	0.27	0.37
Mann-Kendall Statistic (S):		-10	16	-9	-13	-34	-5	11
Confidence Factor:		72.7%	87.5%	75.8%	79.0%	97.9%	61.9%	77.7%
Concentration Trend:		Stable	No Trend	Stable	Stable	Decreasing	Stable	No Trend



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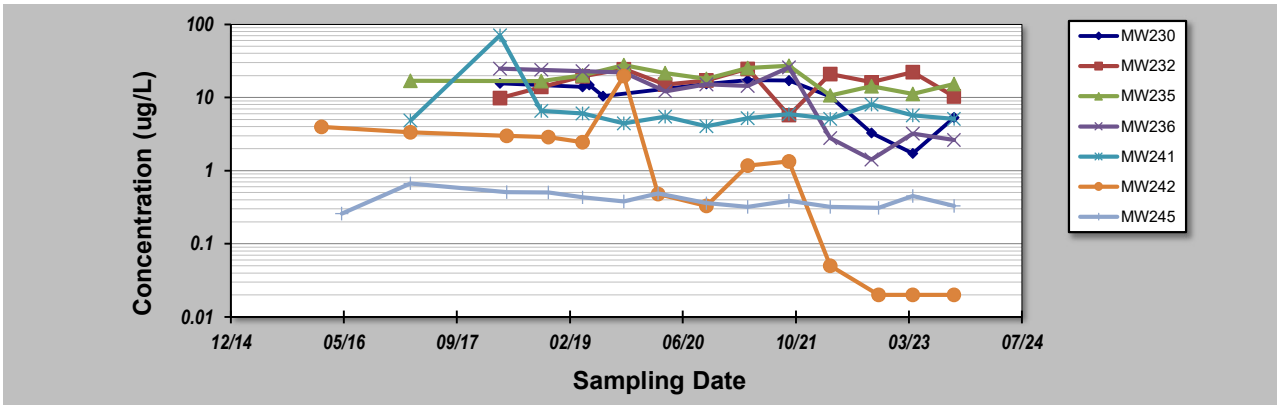
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW230	MW232	MW235	MW236	MW241	MW242	MW245
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Feb-2016						3.970	
2	May-2016						-	0.260
3	Mar-2017			16.900		4.850	3.350	0.670
4	Apr-2018	15.600	9.810		24.900	70.600		
5	May-2018						2.990	0.510
6	Jun-2018							
7	Jul-2018							
8	Sep-2018							
9	Oct-2018		13.900	16.800	23.900	6.580		
10	Nov-2018						2.880	0.500
11	Apr-2019	14.000	19.500	20.100	22.900	6.090	2.460	0.430
12	May-2019	14.800						
13	Jul-2019	10.400						
14	Oct-2019		24.500	27.800	22.000	4.430	19.700	0.380
15	Nov-2019							
16	Jan-2020							
17	Mar-2020						0.480	0.490
18	Apr-2020		14.900	21.500	12.200	5.500		
19	May-2020							
20	Oct-2020	15.300	17.100	18.100	15.200	4.060	0.330	0.360
21	Apr-2021	17.300	24.700	25.400	14.400	5.210	1.170	0.320
22	Oct-2021	17.000	5.730	27.300	25.900	5.960	1.340	0.390
23	Apr-2022	10.300	20.800	10.700	2.800	5.090	0.050	0.320
24	Oct-2022	3.270	16.200	14.300	1.420	8.020		
25	Nov-2022						0.020	0.310
26	Apr-2023	1.720	22.300	11.200	3.220	5.680	0.020	0.450
27	Oct-2023	5.330	10.300	15.300	2.620	5.100	0.020	0.330
28								
29								
30								
Coefficient of Variation:		0.49	0.36	0.31	0.68	1.71	1.83	0.27
Mann-Kendall Statistic (S):		-23	8	-14	-42	-8	-68	-34
Confidence Factor:		95.7%	68.1%	81.0%	99.8%	66.2%	>99.9%	96.5%
Concentration Trend:		Decreasing	No Trend	Stable	Decreasing	No Trend	Decreasing	Decreasing



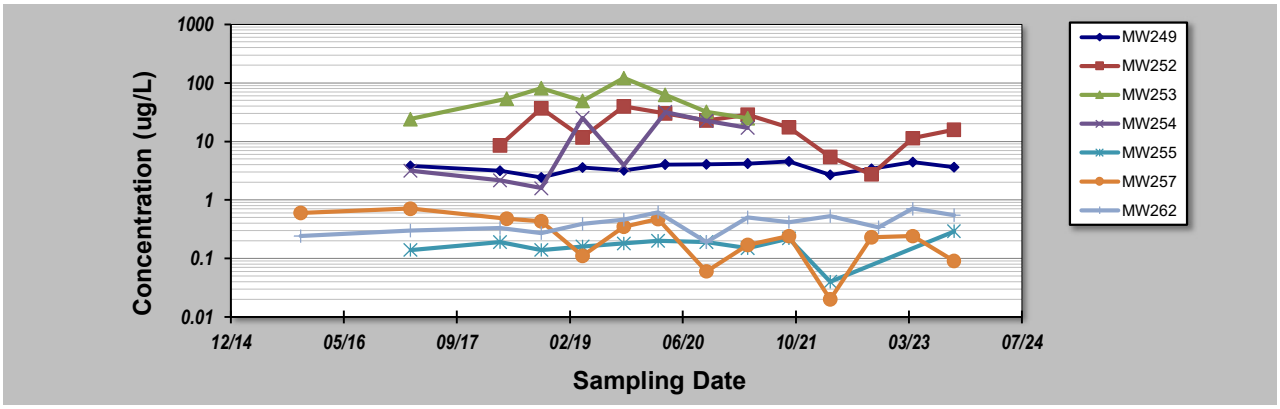
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW249	MW252	MW253	MW254	MW255	MW257	MW262
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Nov-2015						0.600	0.240
2	Mar-2017	3.820		24.120	3.150	0.140	0.710	0.300
3	Apr-2018	3.150	8.570		2.160	0.190		0.330
4	May-2018			53.400			0.480	
5	Jun-2018							
6	Jul-2018							
7	Sep-2018							
8	Oct-2018	2.430	36.700	80.800	1.590	0.140	0.430	0.270
9	Nov-2018							
10	Apr-2019	3.580	11.600	49.100	25.200	0.160	0.110	0.390
11	May-2019							
12	Jul-2019							
13	Oct-2019	3.210	39.500	121.000	3.890	0.180	0.350	0.460
14	Nov-2019							
15	Jan-2020							
16	Mar-2020					0.200	0.470	0.620
17	Apr-2020	4.040	30.200	62.200	31.800			
18	May-2020							
19	Oct-2020	4.080	22.800	32.100	22.600	0.190	0.060	0.190
20	Apr-2021	4.190	28.500	25.000	17.100	0.150	0.170	0.500
21	Oct-2021	4.520	17.300			0.220	0.240	0.420
22	Apr-2022	2.690	5.450			0.040	0.020	0.530
23	Oct-2022	3.390	2.730				0.230	
24	Nov-2022							0.340
25	Apr-2023	4.410	11.300				0.240	0.710
26	Oct-2023	3.610	15.900			0.290	0.090	0.550
27								
28								
29								
30								
Coefficient of Variation:		0.18	0.64	0.58	0.91	0.36	0.71	0.36
Mann-Kendall Statistic (S):		24	-22	-2	10	17	-48	47
Confidence Factor:		91.8%	92.4%	54.8%	86.2%	89.1%	99.6%	99.5%
Concentration Trend:		Prob. Increasing	Prob. Decreasing	Stable	No Trend	No Trend	Decreasing	Increasing



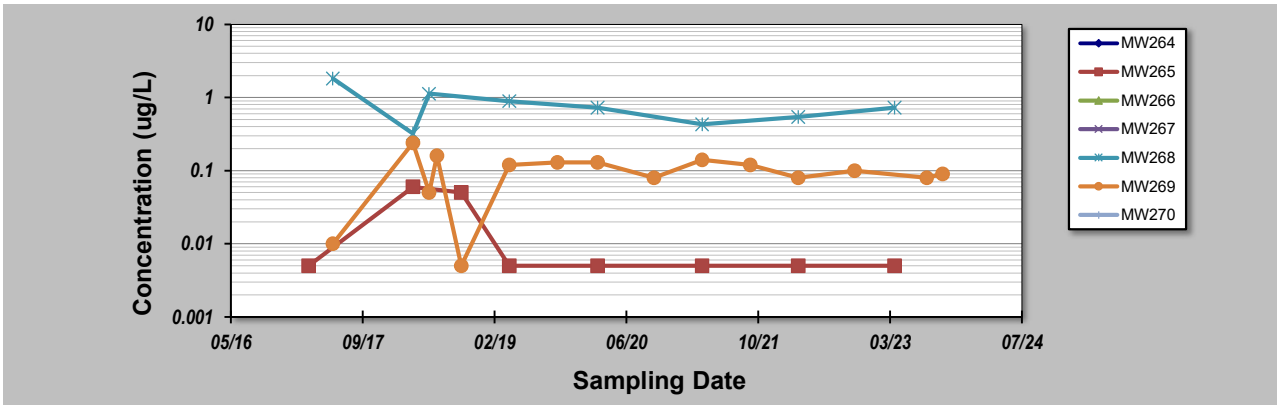
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW264	MW265	MW266	MW267	MW268	MW269	MW270
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2017		0.005					
2	Apr-2017							
3	May-2017							
4	Jun-2017					1.820	0.010	
5	Apr-2018		0.060			0.320	0.240	
6	May-2018							
7	Jun-2018					1.130	0.050	
8	Jul-2018						0.160	
9	Sep-2018							
10	Oct-2018		0.050				0.005	
11	Nov-2018							
12	Apr-2019		0.005			0.890	0.120	
13	May-2019							
14	Jul-2019							
15	Oct-2019						0.130	
16	Nov-2019							
17	Jan-2020							
18	Mar-2020		0.005			0.730	0.130	
19	Apr-2020							
20	May-2020							
21	Oct-2020						0.080	
22	Apr-2021		0.005			0.430	0.140	
23	Oct-2021						0.120	
24	Apr-2022		0.005			0.540	0.080	
25	Oct-2022							
26	Nov-2022						0.100	
27	Apr-2023		0.005			0.730		
28	Aug-2023						0.080	
29	Oct-2023						0.090	
30								
Coefficient of Variation:			1.33			0.58	0.57	
Mann-Kendall Statistic (S):			-9			-9	-8	
Confidence Factor:			83.2%			83.2%	63.3%	
Concentration Trend:			No Trend			Stable	Stable	



Notes:

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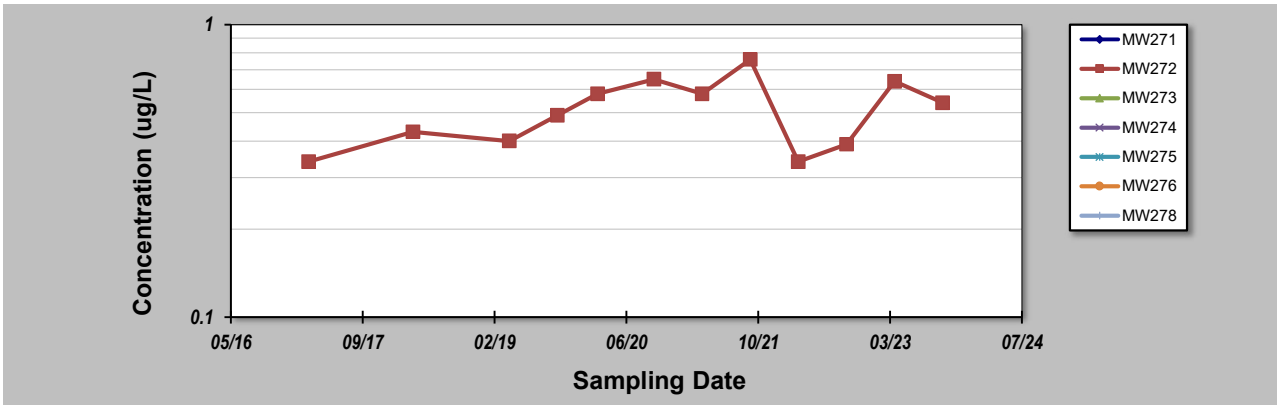
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW271	MW272	MW273	MW274	MW275	MW276	MW278
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2017		0.340					
2	Apr-2017							
3	May-2017							
4	Apr-2018		0.430					
5	Apr-2019		0.400					
6	May-2019							
7	Jul-2019							
8	Oct-2019		0.490					
9	Nov-2019							
10	Jan-2020							
11	Mar-2020		0.580					
12	Apr-2020							
13	May-2020							
14	Oct-2020		0.650					
15	Apr-2021		0.580					
16	Oct-2021		0.760					
17	Apr-2022		0.340					
18	Oct-2022		0.390					
19	Nov-2022							
20	Apr-2023		0.640					
21	Oct-2023		0.540					
22								
23								
24								
25								
Coefficient of Variation:			0.26					
Mann-Kendall Statistic (S):			18					
Confidence Factor:			87.5%					
Concentration Trend:			No Trend					



Notes:

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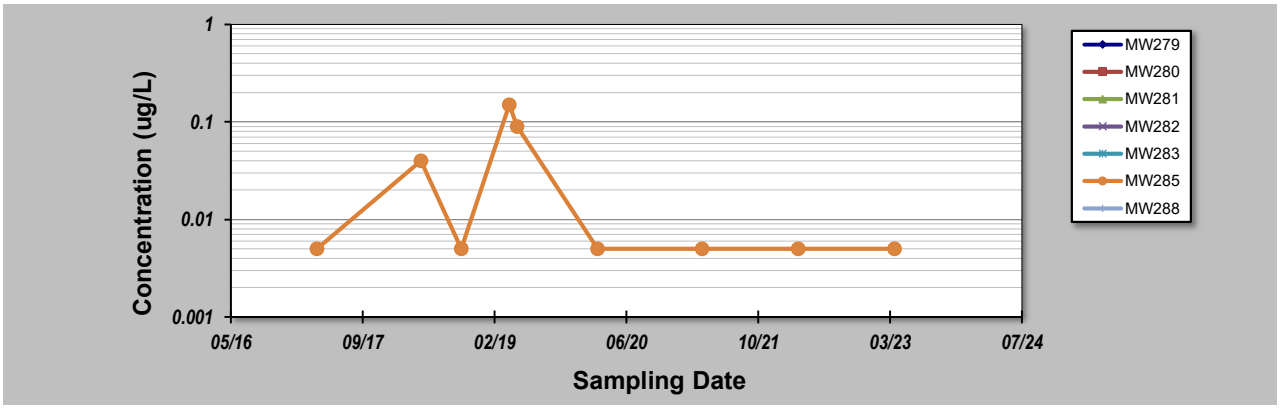
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW279	MW280	MW281	MW282	MW283	MW285	MW288
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Mar-2017							
2	Apr-2017						0.005	
3	May-2017							
4	Jun-2017							
5	Apr-2018							
6	May-2018						0.040	
7	Jun-2018							
8	Jul-2018							
9	Sep-2018							
10	Oct-2018						0.005	
11	Nov-2018							
12	Apr-2019						0.150	
13	May-2019						0.090	
14	Jul-2019							
15	Oct-2019							
16	Nov-2019							
17	Jan-2020							
18	Mar-2020						0.005	
19	Apr-2020							
20	May-2020							
21	Oct-2020							
22	Apr-2021						0.005	
23	Oct-2021							
24	Apr-2022						0.005	
25	Apr-2023						0.005	
26								
27								
28								
29								
30								
Coefficient of Variation:							1.51	
Mann-Kendall Statistic (S):							-7	
Confidence Factor:							72.8%	
Concentration Trend:							No Trend	



Notes:

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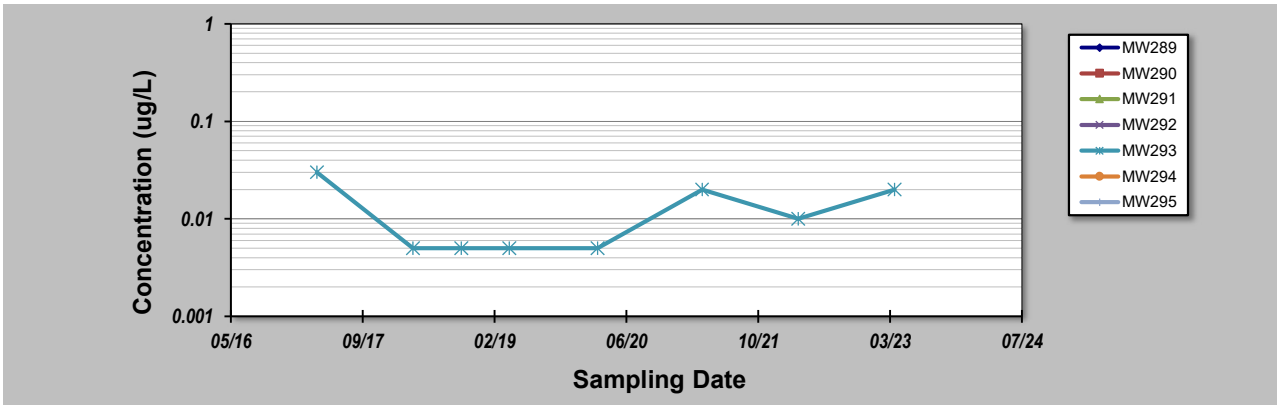
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW289	MW290	MW291	MW292	MW293	MW294	MW295
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Apr-2017					0.030		
2	May-2017							
3	Jun-2017							
4	Apr-2018					0.005		
5	Oct-2018					0.005		
6	Apr-2019					0.005		
7	Mar-2020					0.005		
8	Apr-2020							
9	May-2020							
10	Oct-2020							
11	Apr-2021					0.020		
12	Oct-2021							
13	Apr-2022					0.010		
14	Apr-2023					0.020		
15								
16								
17								
18								
19								
20								
Coefficient of Variation:						0.77		
Mann-Kendall Statistic (S):						5		
Confidence Factor:						68.3%		
Concentration Trend:						No Trend		



Notes:

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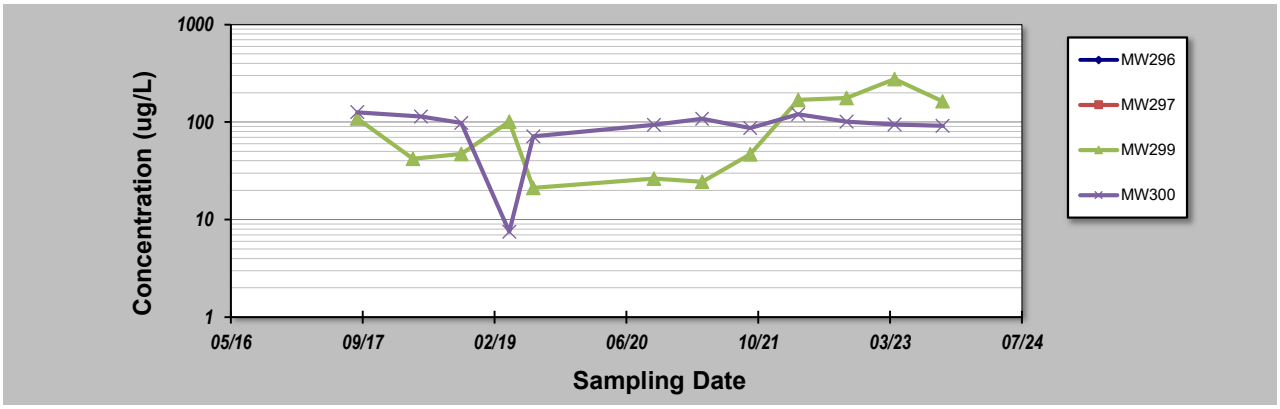
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	22-Jan-24	Job ID:	60612563
Facility Name:	Swartz Barracks	Constituent:	PFHxS + PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID:	MW296	MW297	MW299	MW300			
Sampling Event	Sampling Date	PFHXS + PFOS CONCENTRATION (ug/L)						
1	Jun-2017							
2	Sep-2017			109.000	126.000			
3	Apr-2018			42.000				
4	May-2018				114.000			
5	Oct-2018			47.300	97.700			
6	Nov-2018							
7	Apr-2019			101.000	7.500			
8	May-2019							
9	Jul-2019			21.100	71.200			
10	Mar-2020							
11	Apr-2020							
12	May-2020							
13	Oct-2020			26.400	93.800			
14	Apr-2021			24.400	108.000			
15	Oct-2021			46.700	87.000			
16	Apr-2022			169.000	120.000			
17	Oct-2022			177.000	101.000			
18	Nov-2022							
19	Apr-2023			277.000	94.000			
20	Oct-2023			163.000	91.500			
21								
22								
23								
24								
25								
Coefficient of Variation:				0.81	0.33			
Mann-Kendall Statistic (S):				22	-10			
Confidence Factor:				92.4%	72.7%			
Concentration Trend:				Prob. Increasing	Stable			



Notes:

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2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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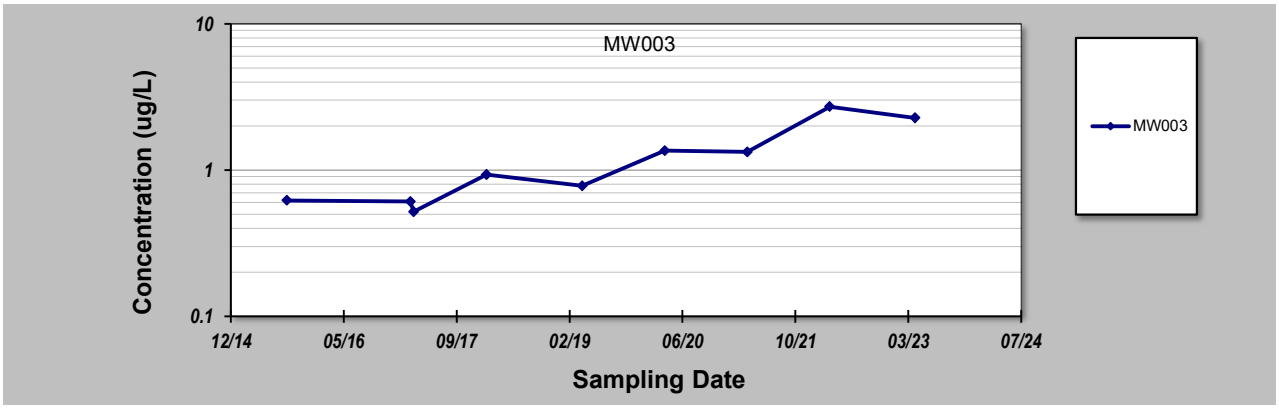
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Feb-24	Job ID:	PFAS OMP
Facility Name:	Brymaroo Satellite Site	Constituent:	PFOA
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID: MW003

Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)
1	Sep-15	0.62
2	Mar-17	0.61
3	Mar-17	0.52
4	Feb-18	0.93
5	Apr-19	0.78
6	Apr-20	1.36
7	Apr-21	1.33
8	Apr-22	2.71
9	Apr-23	2.27
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.63
Mann-Kendall Statistic (S):		24
Confidence Factor:		99.4%
Concentration Trend:		Increasing



Notes:

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3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

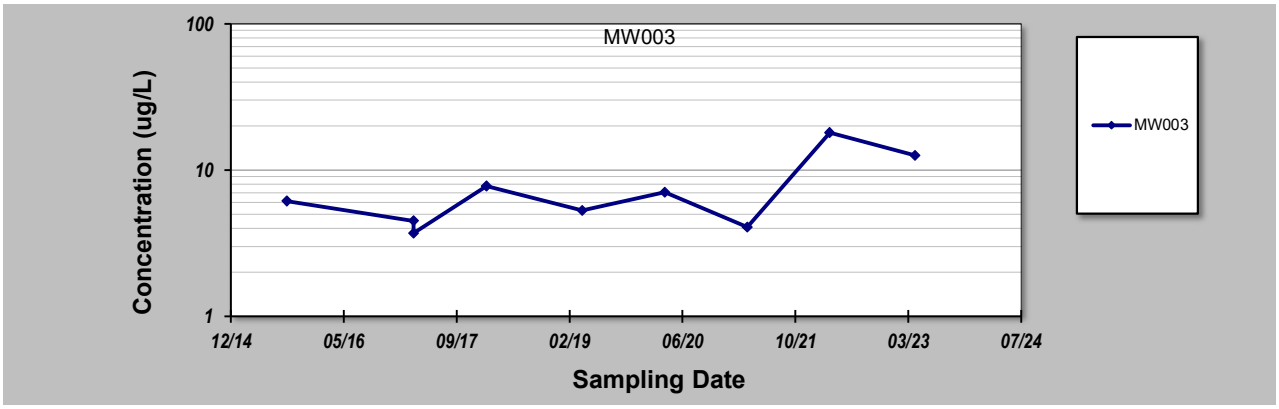
Note: 0.005: grey text indicated less than LOR result, where half the LOR value was applied - e.g. <0.01 = 0.005

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Feb-24	Job ID:	PFAS OMP
Facility Name:	Brymaroo Satellite Site	Constituent:	PFOS
Conducted By:	EC	Concentration Units:	ug/L

Sampling Point ID: MW003

Sampling Event	Sampling Date	PFOS CONCENTRATION (ug/L)
1	Sep-15	6.14
2	Mar-17	4.49
3	Mar-17	3.70
4	Feb-18	7.76
5	Apr-19	5.29
6	Apr-20	7.05
7	Apr-21	4.08
8	Apr-22	18
9	Apr-23	12.6
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.61
Mann-Kendall Statistic (S):		12
Confidence Factor:		87.0%
Concentration Trend:		No Trend



Notes:

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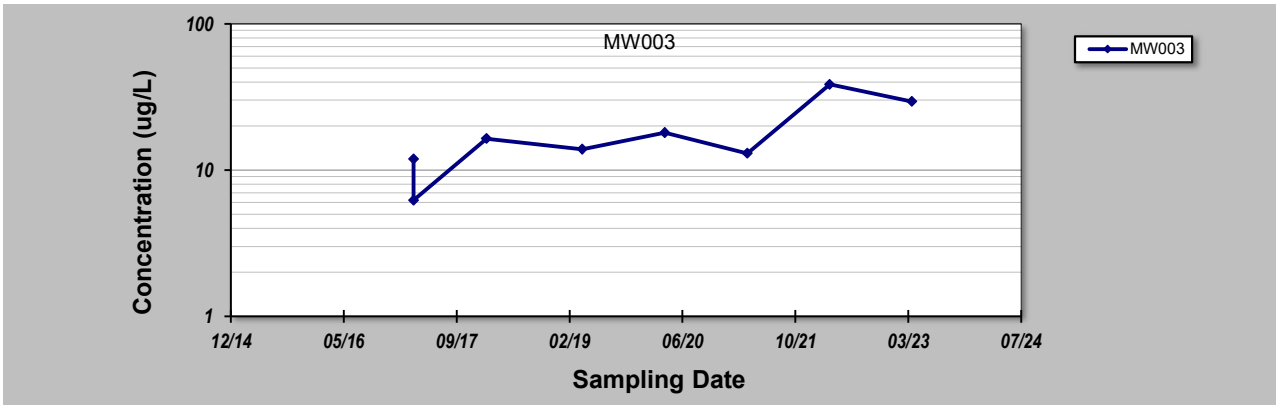
Note: 0.005: grey text indicated less than LOR result, where half the LOR value was applied - e.g. <0.01 = 0.005

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Feb-24	Job ID:	PFAS OMP
Facility Name:	Brymaroo Satellite Site	Constituent:	Sum of PFHxS and PFOS
Conducted By:	JR	Concentration Units:	ug/L

Sampling Point ID: MW003

Sampling Event	Sampling Date	SUM OF PFHXS AND PFOS CONCENTRATION (ug/L)
1	Sep-15	
2	Mar-17	11.9
3	Mar-17	6.21
4	Feb-18	16.4
5	Apr-19	13.9
6	Apr-20	18
7	Apr-21	13
8	Apr-22	38.5
9	Apr-23	29.4
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.57
Mann-Kendall Statistic (S):		16
Confidence Factor:		96.9%
Concentration Trend:		Increasing



Notes:

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2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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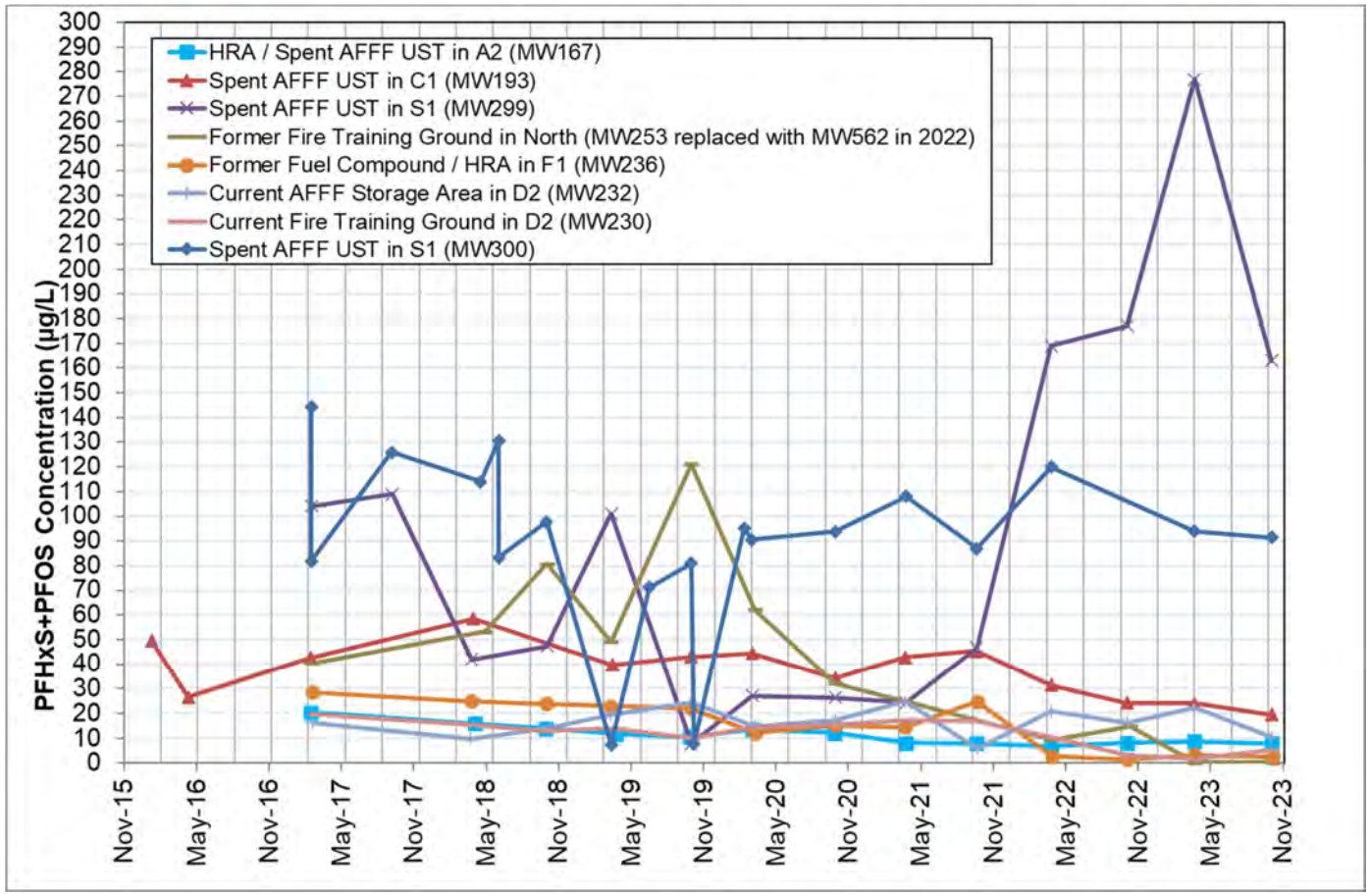
Appendix D

Charts

Appendix D Charts

Chart D1 Groundwater PFHxS + PFOS concentrations in selected on-Base monitoring wells: 2015 to 2023[1]



[1] MW253 and MW254 were destroyed during remediation works at the former fire training ground in Q4 2021. These wells were replaced with MW562 and MW563 in February 2022.

Chart D2 Groundwater PFHxS + PFOS concentrations in monitoring wells in the area of the former fire station: 2014 to 2023

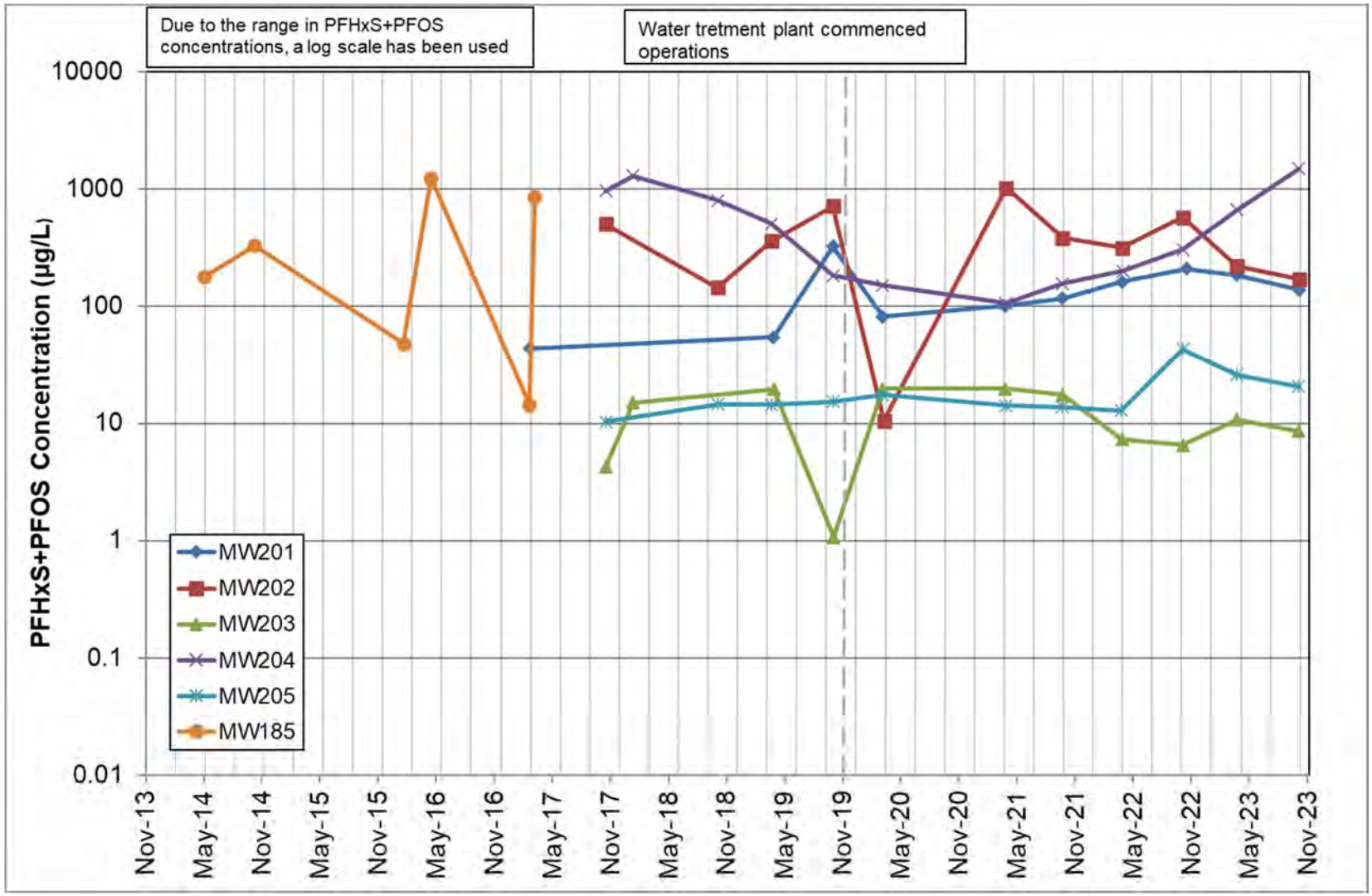


Chart D3 Groundwater PFHxS + PFOS concentrations in residential bores within 1 km of southern Base boundary: 2014 to 2023

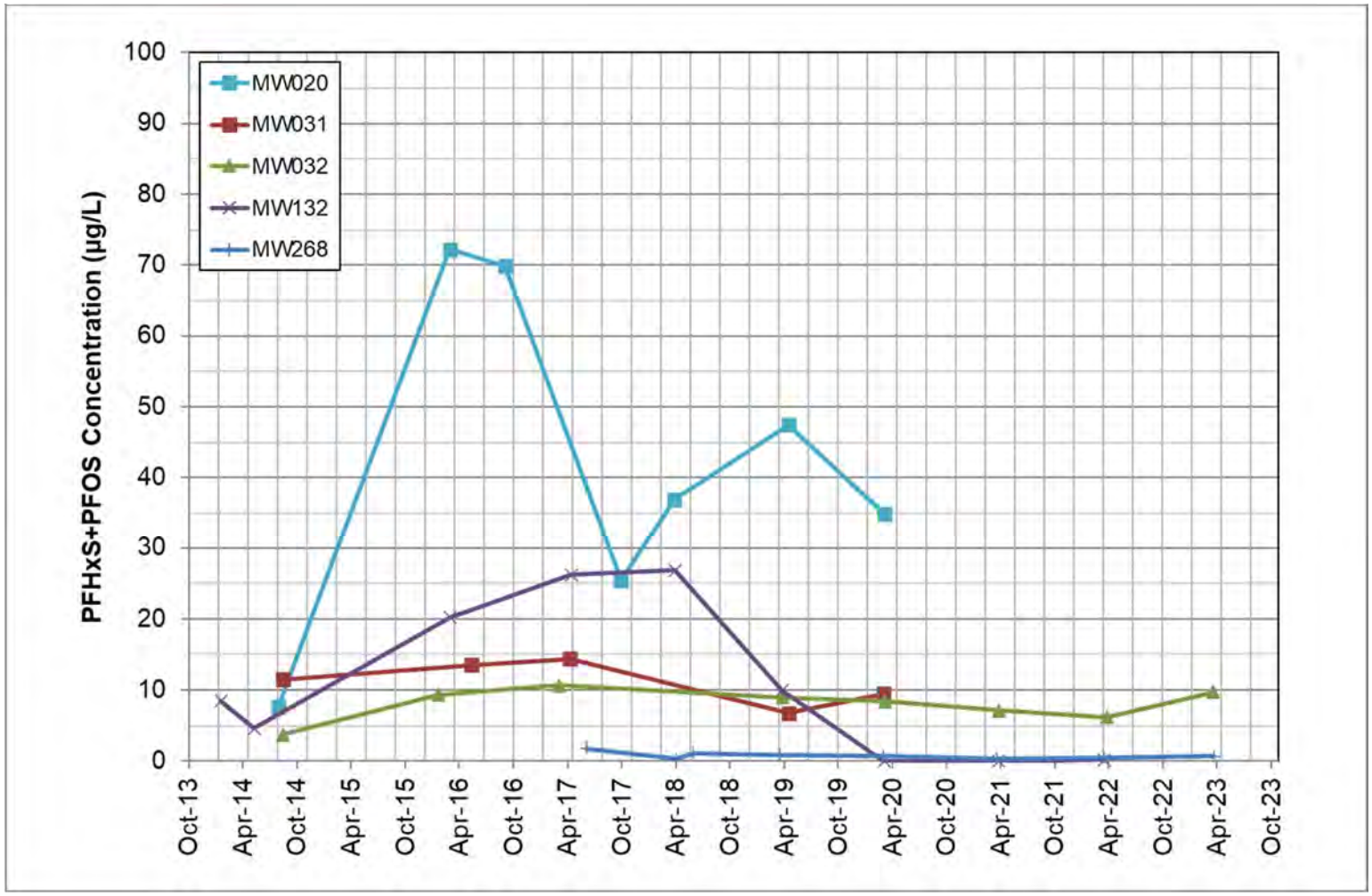


Chart D4 Groundwater PFHxS + PFOS concentrations in selected off-Base wells within approximately 1 km of the south-western corner of Swartz Barracks: 2014 to 2023

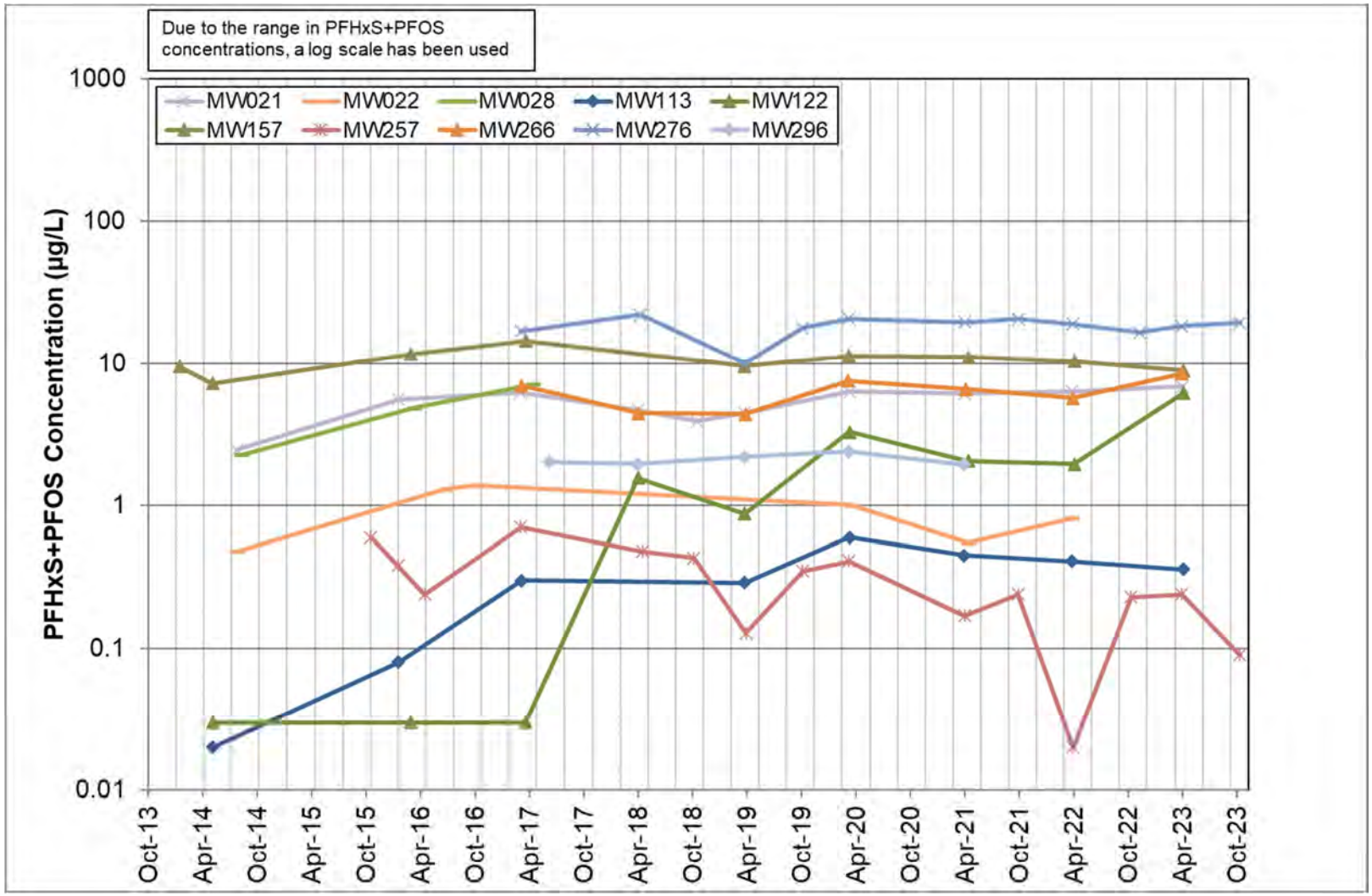


Chart D5 Groundwater PFHxS + PFOS concentrations in selected off-Base wells between 1 km and 2 km of the south-western corner of Swartz Barracks: 2014 to 2023

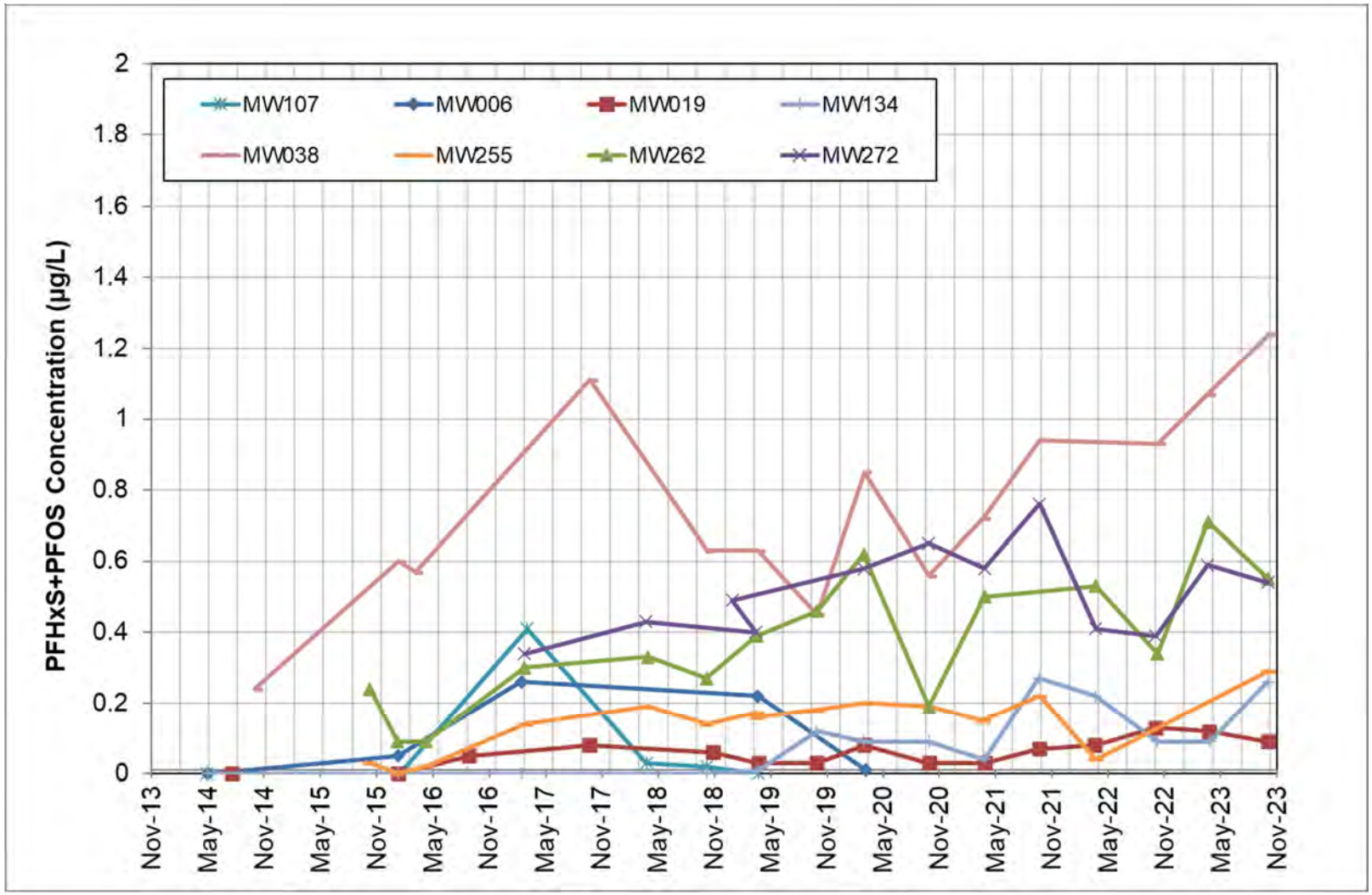


Chart D6 Groundwater PFHxS + PFOS concentrations in selected monitoring wells at Brymaroo: 2015 to 2023

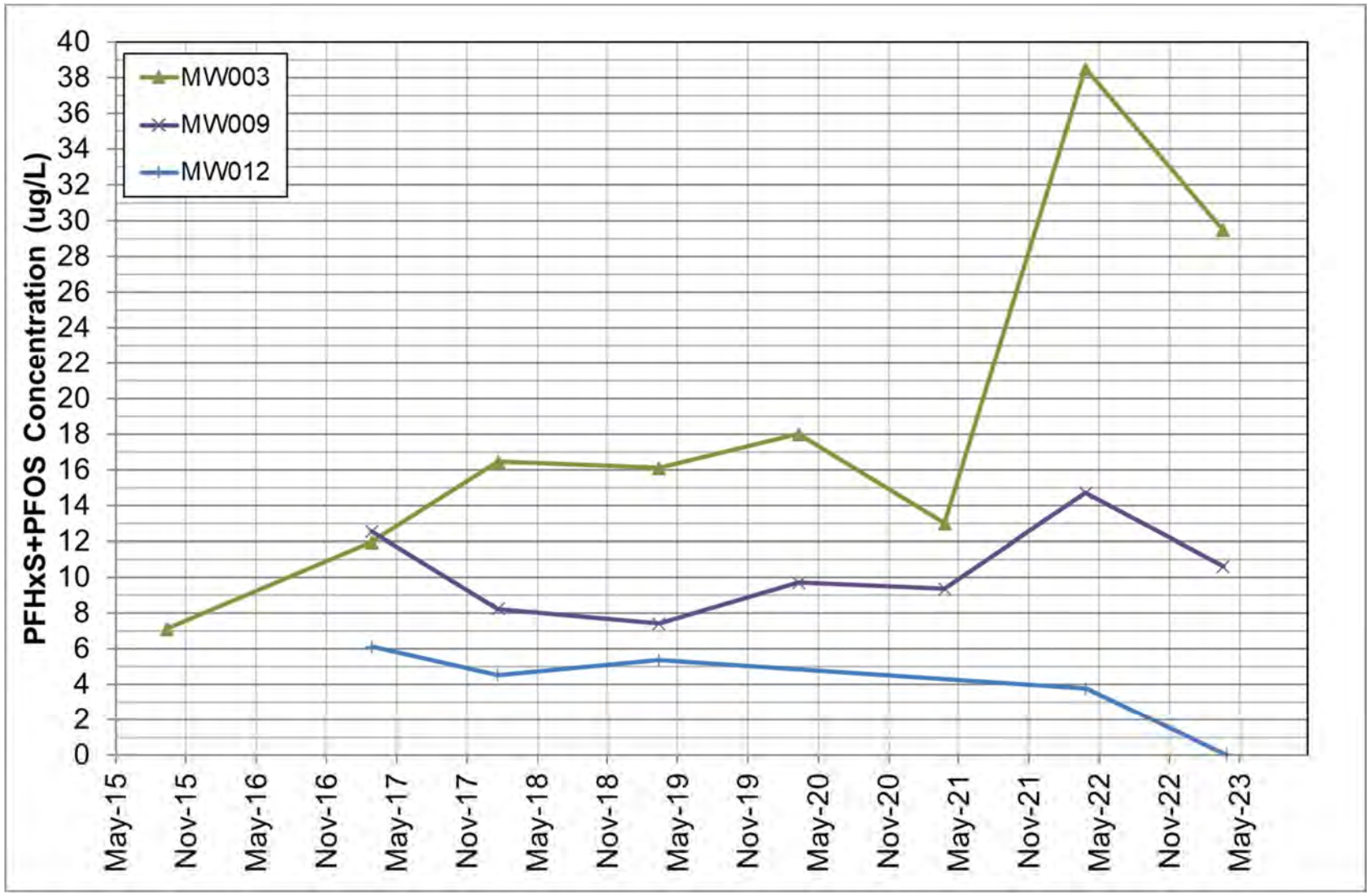


Chart D7 Groundwater PFHxS + PFOS concentrations in selected monitoring wells at Brymaroo: 2015 to 2023

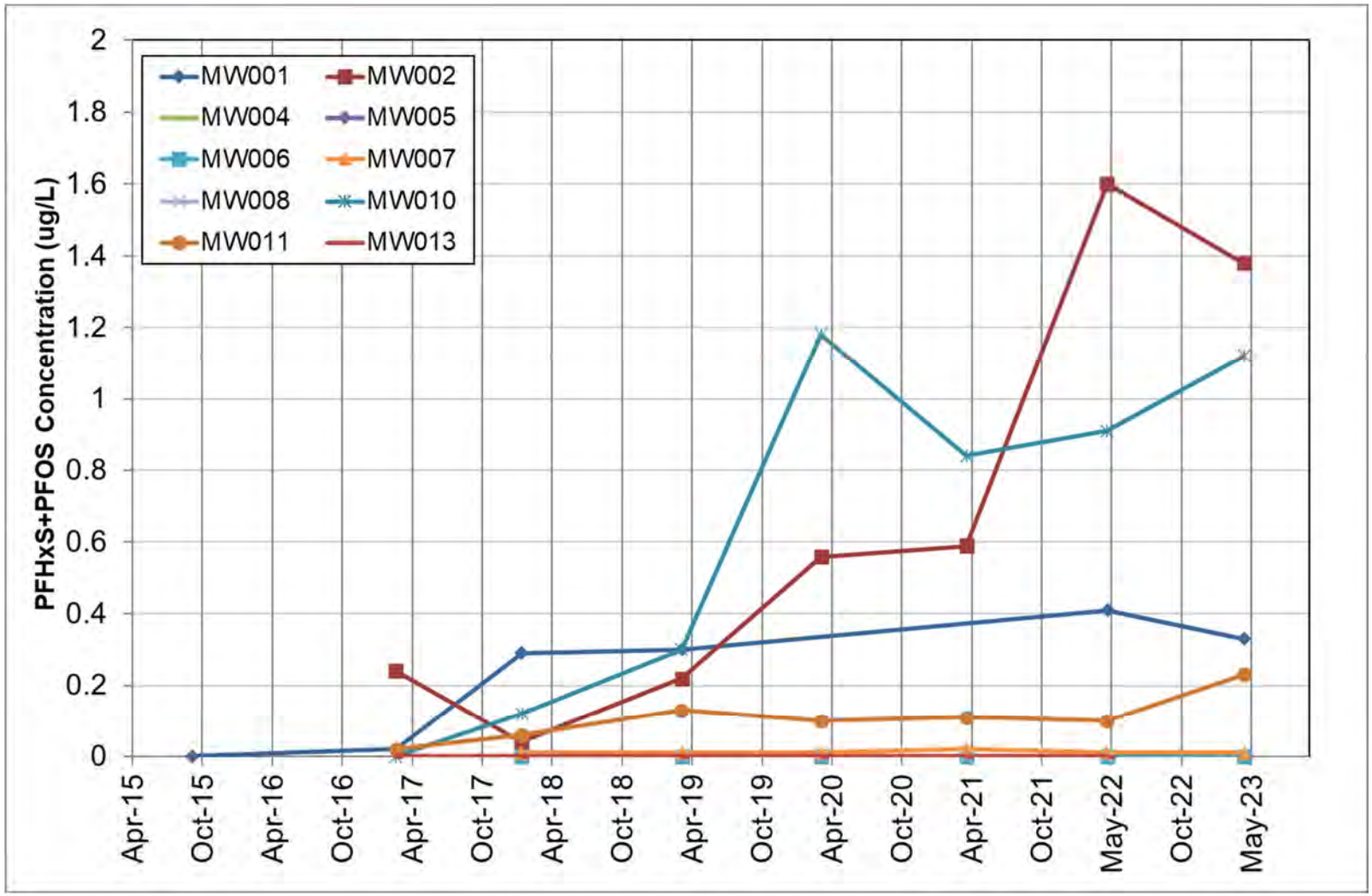


Chart D8 PFOS concentrations in surface water in drainage channels: 2014 to 2023

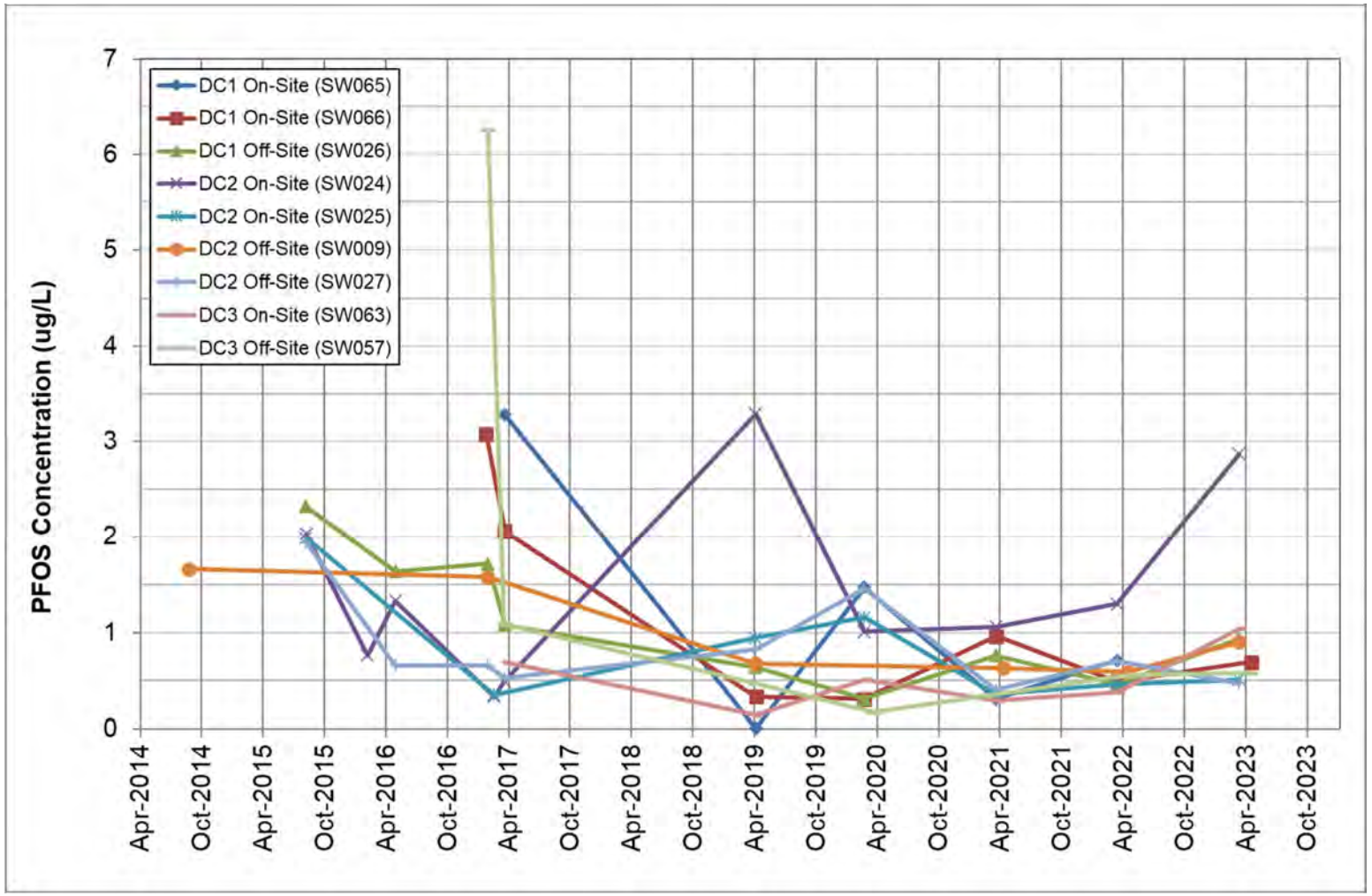
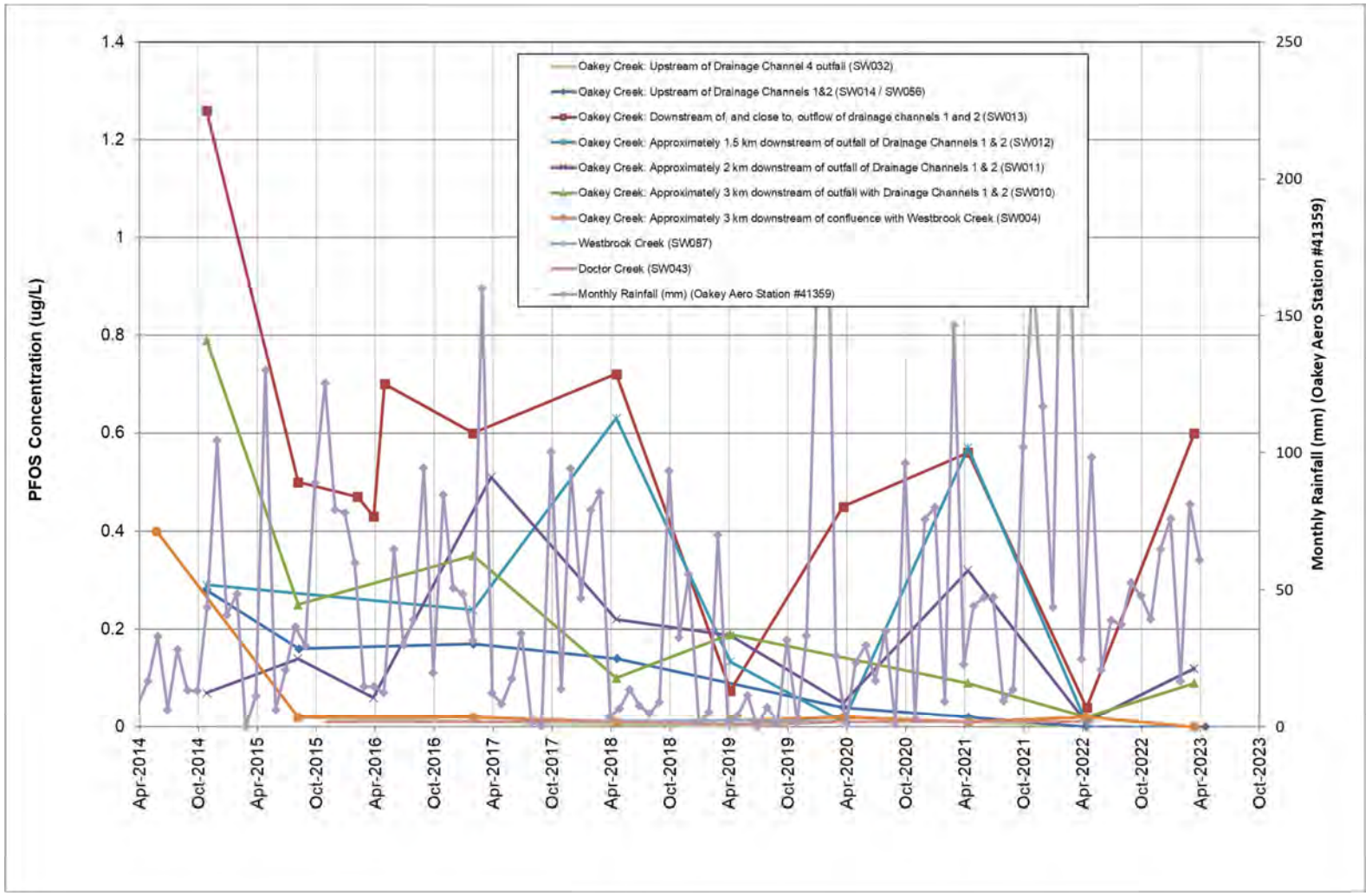


Chart D9 PFOS concentrations in surface water in creeks: 2014 to 2023



Appendix E

Sampling Analysis and Quality Plan

Prepared for
Department of Defence
ABN: 68 706 814 312

AECOM

PFAS OMP- AACO Sampling and Analysis Quality Plan

22-Mar-2023
PFAS Ongoing Monitoring Plan
Doc No. 60612563_PL03_7_230322

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PFAS OMP- AACO Sampling and Analysis Quality Plan

Client: Department of Defence

ABN: 68 706 814 312

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Prepared by Emma Rogers

Reviewed by [redacted]

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			Name/Position	Signature
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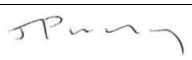
6	02-Mar-2023	Final	[redacted] Project Manager	
7	22-Mar-2023	Final	[redacted] Project Manager	

Table of Contents

1.0 Introduction

1.1 Preamble

AECOM Australia Pty Ltd (AECOM) has prepared this Sampling and Analysis Quality Plan (SAQP) for the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) at the **Army Aviation Centre Oakey (AACO)** (the 'site') and the **AACO Management Area** in the **South Queensland Region**. The SAQP also includes a satellite site of AACO (Brymaroo Satellite Site, hereafter Brymaroo) located approximately 22 km northwest of the AACO.

The SAQP supports the PFAS OMP which was included in the AACO PFAS Management Area Plan (PMAP) (Defence, 2019), here-in referred to as OMP.

The purpose of the OMP program is to collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration, transport (migration pathways and flow) and transformation of PFAS at the site and AACO Management Area. The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP.

1.2 SAQP Objectives

The objectives of this SAQP are to:

- define the proposed scope of works in detail
- outline the proposed sampling methodology to be adopted
- outline the proposed data quality assurance and quality control (QA/QC) measures to be adopted
- define the data collection requirements for the project.

1.3 Scope of Works

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

- Annual comprehensive sampling event in March/April 2020, March/April 2021, March/April 2022, March/April 2023 and March/April 2024 including:
  - groundwater sampling of 47 on-site groundwater monitoring wells (34 at AACO and 13 at Brymaroo) and 49 off-site groundwater monitoring wells and bores
  - co-located sediment and surface water sampling at six on-site and 16 off-site sampling locations
- Targeted sampling event in October 2019, October 2020, October 2021, October 2022 and October 2023 including groundwater sampling of 34 on-site groundwater monitoring wells (at AACO) and 14 off-site groundwater monitoring wells and bores.
- Preparation of reports including a sampling event factual report (following each comprehensive and targeted sampling event) and annual interpretative reports following the completion of each 12-month sampling period.

Since the OMP was issued in 2019 there have been some minor changes in the number of groundwater sampling locations due to property owners declining permission or monitoring wells being destroyed. **Section 4.3.2** to **Section 4.3.4** provides the updated list of sampling locations.

1.4 Guidelines and Legislation

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

- PFAS National Environmental Management Plan (NEMP), Heads of Environmental Protection Agencies (HEPA), version 2.0 2020

- National Environment Protection (Assessment of Site Contamination) Measure (NEPM), National Environment Protection Council (NEPC), 2013
- Department of Defence, Routine Environment Water Quality Monitoring Manual, 2016
- Department of Defence, Contamination Management Manual (DCMM), 2018 amended 2021
- Department of Health, Health Based Guidance Values for PFAS for use in site investigations in Australia. 2019
- National Health and Medical Research Council (NHMRC), Guidance on PFAS in Recreational Water. August 2019
- Standards Australia 1998. AS/NZ 5667:1998 Water Quality – Sampling
- Australian and New Zealand Guidelines, 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality
- Environmental Protection Policy, (Water and Wetland Biodiversity), 2019.

2.0 Site Identification and Conceptual Site Model

2.1 The Base and Management Area

AACO was constructed in 1943, initially as a training facility and overflow aircraft maintenance depot for RAAF Base Amberley. The Site currently operates as the Army's helicopter training school for pilots and aviation technicians and is also home to a Republic of Singapore Airforce helicopter squadron. The northern part of AACO is the airfield, while the southern part of AACO comprises support services, buildings and infrastructure. Approximately 290 hectares of the Site are leased for agriculture in the western portion of AACO.

Brymaroo is approximately 266 hectares in size and is used for training in emergency landings and fire hazard training. AFFF containers are present for use in emergencies. No known training exercises using AFFF are known. The key objective of an environmental investigation conducted between 2016 and 2018 was to characterise potential environmental impacts from the historical use of AFFF.

The AACO Management Area was established in 2017 and comprises three zones:

- **Management Zone 1:** this zone is located immediately to the south and southwest of AACO. It has the highest perfluorooctanesulfonic acid (PFOS) + perfluorohexanesulfonic acid (PFHxS) concentrations in groundwater in the Management Area given its closer proximity to the AACO and potential downwards migration of PFAS from surface water in drainage channels 1 and 2.
- **Management Zone 2:** this zone is located further to the south and southwest of the AACO. It has higher PFOS+PFHxS concentrations in groundwater in comparison with Management Zone 3 as a result of a combination of impacted groundwater flowing to the south and west from the Site together with downwards migration of PFAS-impacted surface water from the drains leaving the Site.
- **Management Zone 3:** located outside Management Zone 1 and Zone 2 and within the remainder of the Management Area. PFAS was not detected by the laboratory in the majority of groundwater samples collected from groundwater monitoring bores in this Management Zone.

Defence has issued precautionary advice for residents within each management zone.

2.2 Conceptual Site Model

The conceptual site models (CSM) for AACO and Brymaroo are presented in detail in the OMP (Defence, 2019) which summarises the linkages between sources, pathways and receptors. The CSM is reviewed annually, as part of the annual interpretive report (AIR). The most recent AIR was the 2021 AIR, which was issued in September 2022 (AECOM, 2022a).

3.0 Data Quality Assessment

3.1 Data Quality Objectives

The amended NEPM, Schedule B [2] Guideline on Site Characterisation (2013) specifies that the nature and quality of the data produced in an investigation will be determined by the Data Quality Objectives (DQOs). As referenced by the NEPM, the DQO process is detailed in the United States Environmental Protection Agency (US EPA) *Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4 : EPA/240/B-06/001), February 2006.*

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

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

Table 1 The seven steps in defining DQOs

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

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

3.1.1 Step 1 – State the Problem

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

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

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

3.1.2 Step 2 – Identify the Goal of the Study

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

Specific goals of the program are to:

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

3.1.3 Step 3 – Identify Information Inputs

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

- PFAS results from previous investigations
- meteorological data including rainfall
- previous and new data collected during the residential sampling program where permission to use the data has been granted by landowners
- groundwater, surface water and sediment data collected and analysed for PFAS, as part of the SAQP
- groundwater and surface water elevation data
- statistical analysis to identify trends
- advances in laboratory analytical approaches and changes in regulatory requirements.

3.1.4 Step 4 – Define the Boundaries of the Study

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

- The spatial boundary for data collection and decision making is the site, the Management Area and Brymaroo (refer to **Appendix A**)
- The sampling completed as part of the SAQP includes groundwater, surface water and sediment, at the frequencies defined in **Section 4.3**. In addition, ad hoc sampling for biota may also be required
- The monitoring will be long term and potentially ongoing.

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

3.1.5 Step 5 – Develop the Analytical Approach

The decision rules can be defined as:

- Analytical selection; all samples will be analysed for the extended PFAS suite.
- Analytical method selection for PFAS is based on achieving appropriate laboratory LOR in the various media to be analysed.
- Sample locations have been selected with the objective of monitoring PFAS trends (temporal and seasonal), providing early warning of changes in the migration of PFAS in surface water and groundwater.
- If the laboratory quality assurance / quality control data are within the acceptable ranges, the data will be considered suitable for use.

- If PFAS concentrations are reported above the laboratory LOR, where it was previously <LOR, then it will be considered whether further assessment of the data will be required.
- If the PFAS is reported at a concentration that is above drinking water guideline in groundwater, then it will be considered that further assessment is required and / or notification.
- If the PFAS is reported at a concentration that is inside a trigger value or acceptable range, then it will be considered whether monitoring is continued or reduced, this assessment will be undertaken after two years of monitoring.

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

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

3.1.6 Step 6 – Specify Performance or Acceptance Criteria

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

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

- A decision can be made based on a certainty assumption of 95% confidence in any given data set. A limit on the decision error will be 5% that a conclusive statement may be a false positive or false negative.
- A decision error in the context of the decision rule presented above would lead to either underestimation or overestimation of the risk level associated with a particular sampling area.
- Sampling errors may occur when the sampling program does not adequately detect the variability of a contaminant from point to point across the site. To address this, the OMP outlines minimum numbers of samples proposed to be collected from each media.
- As such, there may be limitations in the data if aspects of the OMP cannot be implemented. Some examples of this scenario include but are not limited to:
    - Proposed surface water sample locations may be dry at the time of sampling
    - Proposed groundwater well locations are damaged or destroyed and therefore cannot be sampled
    - Proposed samples are not collected due to access being restricted to a given location.
- Limitations in ability to acquire useful and representative information from the data collected. The data are proposed to be collected from multiple locations and sample media. Some examples of this scenario include:
    - Some of the data are proposed to be collected from landholder bores, which are not purpose-built for groundwater monitoring. In some cases, there is limited information on the bore construction, and the likely presence of dedicated pumps or windmills may prevent groundwater depths being accurately recorded while also preventing groundwater being sampled using low flow techniques.
- Measurement errors can occur during sample collection, handling, preparation, analysis and data reduction. To address this the following measures are proposed:

- Collection of sufficient sample mass to facilitate analysis reported to standard laboratory detections limits. Collection of insufficient sample mass may result in raised detection limits.
- Field staff to follow a standard procedure when collecting samples, including decontamination of tools, and use of appropriate sample containers and preservation methods.
- Laboratories to follow a standard procedure when preparing samples for analysis and undertaking analysis.
- Laboratories to report quality assurance/ quality control data for comparison with the DQIs established for the SAQP.

3.1.7 Step 7 – Optimise the Design for Obtaining Data

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

- working closely with the analytical laboratories and sampling equipment suppliers to ensure that appropriate procedures and processes are developed and implemented prior to and during the fieldwork, to ensure that sample handling, and transport to and processing by the analytical laboratories is appropriate
- conducting sampling according to Defence and Australian Standards for the type of sampling being conducted (i.e. groundwater monitoring well sampling versus landholder bore water sampling). These standards are as follows:
  - Department of Defence DCMM (July 2018, Amended 2021)
  - Standards Australia (AS/NZS5667.11–1998) *Water Quality – Sampling, part 11: Guidance on sampling of groundwater*
  - Standards Australia (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*
  - Standards Australia (AS 4482.2-1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances*
- conducting sampling in accordance with AECOM's internal PFAS Sample Collection Guidance
- sampling conducted by suitably qualified and experienced field staff
- basing the sampling upon a CSM developed using the information available at the implementation of the SAQP. Updating the CSM as new data becomes available in the course of the implementation of the SAQP, as required
- progressive review of the data throughout the initial three-year OMP period and modification of sampling programs to optimise the value of data generated.

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

3.2 Assessment of Data Quality

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

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

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

The acceptance criteria for DQIs for samples are specified in **Table 2**.

Table 2 Acceptance Criteria for Data Quality Indicators for Sample Analysis

Data Quality Indicators	Acceptance Criteria
Water and Sediment Samples	
Rinsates (where sampling equipment is reused)	Less than the laboratory LOR.
Field duplicates/Inter-lab duplicates	The relative percentage distributions (RPDs) will be assessed as acceptable if less than or equal to 30% as per the NEPM Schedule B3. Where the results shows greater than 30% difference a review of the cause will be conducted (NEPM, 2013). It is noted that RPDs that exceed this range may be considered acceptable where: • Results are less than 10 times the LOR (no limit); • Results are less than 20 times the LOR and the RPD is less than 50%; and • Heterogeneous materials are encountered.
Laboratory duplicates	RPDs less than: • 20% for high level laboratory duplicates (i.e. >20 x LOR); and • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR).
Matrix spikes	Recoveries between 70-130% of the theoretical recovery or as nominated in the laboratory's QC report, based on their historical database.
Method blanks	Less than the laboratory LOR.
Laboratory control samples	Recoveries between laboratories specified range for each particular analyte / analytical suite.

4.0 Sampling Location Rationale and Methodology

4.1 OMP

The OMP (Defence, 2019) presents an overview of specific monitoring works to be undertaken and provides the basis for the preparation of this SAQP. This scope of works presented in this SAQP is consistent with that detailed in the OMP[1] (Defence, 2019), with the exception of those points of deviation presented in **Section 4.15**.

4.2 Proposed Schedule

4.2.1 Sampling Events

Groundwater, surface water and sediment sampling from across the Management Area will be performed biannually as part of a comprehensive sampling event in March/April and a targeted sampling event in October. The proposed schedule of fieldworks is presented in **Table 3** below.

Table 3 Proposed Fieldwork Schedule

Sampling Round No.	Description of works	Proposed Schedule
1	Targeted groundwater sampling	October 2019
2	Comprehensive groundwater, surface water and sediment sampling	March/April 2020
3	Targeted groundwater sampling	October 2020
4	Comprehensive groundwater, surface water and sediment sampling	March/April 2021
5	Targeted groundwater sampling	October 2021
6	Comprehensive groundwater, surface water and sediment sampling	March/April 2022
7	Targeted groundwater sampling	October 2022
8	Comprehensive groundwater, surface water and sediment sampling	March/April 2023
9	Targeted groundwater sampling	October 2023
10	Comprehensive groundwater, surface water and sediment sampling	March/April 2024

4.3 Sample Location Rationale

4.3.1 Groundwater Sampling Locations

Groundwater monitoring will be undertaken on selected monitoring wells and residential bores. The rationale for monitoring well selection for each area is summarised in **Table 4** below.

[1] Note that the sampling locations included in the annual comprehensive sampling event and the targeted sampling event have been revised since the PMAP was issued. This is documented in Section 4.15.

Table 4 Rationale for Groundwater Monitoring Locations

Area	Rationale
On-site (Oakey Creek Alluvium Aquifer)	• Monitor spatial and temporal variations in PFAS concentrations in groundwater concentrations up, down and cross-gradient of source areas • Assess if groundwater PFAS concentrations in bores down-gradient of the source areas change in response to management measures over time
Off-site: south of site down-hydraulic gradient of drainage channels and Oakey Creek in the Oakey Creek Alluvium aquifer	• Monitor spatial and temporal variations in PFAS concentration in the groundwater down-gradient of drainage channels and Oakey Creek • Assess if groundwater PFAS concentrations in bores to the south of the Site change in response to management measures over time • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations • Monitor groundwater adjacent to Oakey Creek to assess PFAS migrating from the drainage channels and Oakey Creek to groundwater • Monitor groundwater parallel and perpendicular to the PFAS plume to assist with understanding concentrations changes in these alignments.
Off-site: south-west of the site up- and down- hydraulic gradient of the landfill in the Oakey Creek Alluvium aquifer	• Monitor spatial and temporal variations in PFAS concentration in the groundwater up- and down gradient of the landfill • Assess if groundwater PFAS concentrations in bores to the south-west of the Site change in response to management measures over time • Monitor groundwater parallel and perpendicular to the PFAS plume to assist with understanding concentrations changes in these alignments.
Off-site: west and south-west of the site in the Oakey Creek Alluvium aquifer	• Monitor potential changes in PFAS concentrations at the plume margins to the west and south west of the Site to refine model predictions • Assess if groundwater PFAS concentrations in bores to the west and south-west of the Site change in response to management measures over time • To provide an indication if additional management measures are required for groundwater users outside the current area of PFAS contamination in groundwater • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations • Monitor groundwater parallel and perpendicular to the PFAS plume to assist with understanding concentrations changes in these alignments.
Off-site: within underlying aquifer units (Main Range Volcanics and Walloon Coal Measures) at locations the south, southwest and west of the site.	• Monitor groundwater PFAS concentrations in underlying aquifers to assess potential vertical migration of PFAS into underlying aquifers at vulnerable locations, including areas where bores have been constructed to previous standards, irrigation return flow and flooding • Monitor potential changes in PFAS concentrations to provide up to date information to users of the underlying aquifer and to refine model predictions

Area	Rationale
	• Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations.
Brymaroo (Main Range Volcanics aquifer)	• Monitor spatial and temporal variations in PFAS concentration in groundwater • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations.

Note: Off-site residential sampling locations will require the agreement of the landholder/leaseholder.

4.3.2 Groundwater Sampling Locations

The groundwater locations to be monitored as part of the annual comprehensive sampling event and targeted sampling event are provided **Table 5** below and are presented in **Figure 1** (on-site), **Figure 2** (off-site) and **Figure 4** (Brymaroo) in **Appendix A**. Sample identity numbers were changed in 2019 to be compliant with the DCMM (Defence 2021). A table showing historical and current sample identification numbers is presented in **Appendix C**.

Table 5 Groundwater sampling locations

Location		Event	Bores	No. of locations	
				Annual April	Targeted October
On-site					
Source Area Bores	Fire training area in North	A & T	MW562*, MW563*	2	2
	Former fire station in B3	A & T	MW201, MW202, MW203, MW204, MW205	5	5
	AFFF Storage Area / D20 appliance testing area	A & T	MW221, MW222, MW230, MW232	4	4
	AFFF recovery tank in F1 / hot refuel area	A & T	MW235, MW236, MW241	3	3
	AFFF recovery tank in A2 / hot refuel area	A & T	MW172, MW173	2	2
	AFFF recovery tank in S1	A & T	MW299, MW300	2	2
	AFFF Settling tank in C1	A & T	MW193, MW198, MW206, MW223, MW229	5	5
On-site Boundary Bores (Oakey Creek Alluvium)		A & T	MW167, MW174, MW178, MW179, MW187, MW189, MW233, MW242, MW245, MW249, MW252	11	11
Off-site					
Off-site Background Bores (to east/ southeast of Site)		A	MW265, MW279	2	0
South of Site and down gradient of drainage channels and Oakey Creek		A	MW267, MW268, MW270, MW278, MW292, MW294, *MW032, MW132*	8	0
Up and down gradient of landfill		A	MW280, MW281, MW282	3	0

Location	Event	Bores	No. of locations	
			Annual April	Targeted October
West and southwest of Site	A	MW255, MW257, MW262, MW264, MW266, MW272, MW274, MW276, MW283, MW285, MW296, *MW003, MW019, MW021, MW038, MW056, MW113, MW114, MW118, MW122, MW134, MW147, MW149, MW151, MW157*	25	0
	T	MW255, MW257, MW262, MW264, MW276, MW272, *MW003, MW019, MW038, MW056, MW134, MW147, MW151*	0	13
Underlying aquifers (to south, south-west and west of Site)	A	MW271, MW275, MW288, MW269, MW273, MW289, MW290, MW291, MW293, MW295, MW297	11	0
	T	MW269	0	1
Brymaroo				
On-site Bores	A	MW001, MW002, MW003, MW004, MW005, MW006, MW007, MW008, MW009, MW010, MW011, MW012, MW013	13	0

Note: *Italics* indicates residential bore
A = Annual, T = Targeted
* Monitoring wells MW562 and MW563 were installed in 2022 to replace wells MW253 and MW254 that were decommissioned in 2021 during remediation works.
Five residential bores in Oakey (MW020, MW022, MW031, MW032 and MW160) have been removed from the monitoring program as the property owners declined permission to access the bores in 2021/22.

4.3.3 Surface Water Sampling Locations

The surface water sampling locations have been selected to build upon and maintain consistency with the monitoring completed during the Stage 2C Environmental Investigation (EI) (AECOM, 2017). The locations have been previously sampled several times, and continued monitoring will provide additional data to assess temporal variability. The locations to be monitored as part of the annual comprehensive sampling event (March/April) are provided in **Table 6** below and are presented on **Figure 3** in **Appendix A**. A table showing historical and current sample identification numbers is presented in **Appendix C**.

Table 6 Surface Water Sampling Locations

Area	Description	Sampling Locations	Number of Locations	Total
Creek	Oakey Creek upstream of drainage channel 3 outfall	SW032, SW040	2	11 locations
	Oakey Creek (downstream of confluence with Westbrook Creek (includes weir))	SW010, SW011, SW012, SW013, SW056	5	
	Oakey Creek (downstream confluence with Westbrook Creek)	SW004, SW059	2	
	Doctor Creek	SW043	1	
	Westbrook Creek	SW028	1	
Drainage Channel	Drainage Channel 1 (on-site)	SW065, SW066	2	11 locations
	Drainage Channel 1 (off-site)	SW026	1	
	Drainage Channel 2 (on-site)	SW024, SW025	2	
	Drainage Channel 2 (off-site)	SW009, SW027	2	
	Drainage Channel 3 (on-site)	SW019, SW021, SW063	3	
	Drainage Channel 3 (off-site)	SW057	1	

4.3.4 Sediment Sampling Locations

The sediment sampling locations have been selected to build upon and maintain consistency with the monitoring completed during the Stage 2C EI (AECOM, 2017) and are co-located with the surface water sampling locations. Many of the locations have been previously sampled several times, and continued monitoring will provide additional data to assess temporal variability. The locations to be monitored as part of the annual comprehensive sampling event (March/April) are provided in **Table 7** below. A table showing historical and current sample identification numbers is presented in **Appendix C**.

Table 7 Sediment Sample Locations

Area	Description	Sampling Locations	Number of Locations	Total
Creek	Oakey Creek upstream of drainage channel 3 outfall	SD032, SD040	2	11 locations
	Oakey Creek (downstream of confluence with Westbrook Creek (includes weir))	SD037, SD036, SD0105, SD102, SD018	5	
	Oakey Creek (downstream confluence with Westbrook Creek)	SD038, SD045	2	
	Doctor Creek	SD007	1	
	Westbrook Creek	SD070	1	
Drainage Channel	Drainage Channel 1 (on-site)	SD106, SD022	2	11 locations
	Drainage Channel 1 (off-site)	SD015	1	
	Drainage Channel 2 (on-site)	SD024, SD010	2	
	Drainage Channel 2 (off-site)	SD013, SD011	2	
	Drainage Channel 3 (on-site)	SD016, SD025, SD107	3	
	Drainage Channel 3 (off-site)	SD017	1	

4.4 Sample Collection and Handling

4.4.1 Groundwater Sampling

The groundwater sampling methodology and schedule are presented in **Table 8**.

Table 8 Groundwater Sampling Methodology and Schedule

Item	Details
Groundwater gauging	The depth to groundwater will be measured in each monitoring well immediately prior to collection of groundwater samples.
Sample Collection Methodology	**Shallow Bores in Oakey Creek Alluvium and Deeper Bores installed in Main Range Volcanics and Walloon Coal Measures** Groundwater samples will be collected from all monitoring wells using no-purge methodology HydraSleeves™, which will be installed within the screened interval of the wells (approximately 1 m above the base of the well) for a minimum of 24 hours prior to the sampling round. Once sampling is completed, new HydraSleeves™ will be deployed at the screened interval depth in preparation for the next sampling round. **Residential Bores** Bore water samples will be collected by placing the laboratory provided sample bottle beneath the tap outlet and the tap slowly opened to collect the “first flush” of water. The residential bores are: MW003, MW019, MW021, MW038, MW056, MW113, MW114, MW118, MW122, MW132, MW134, MW147, MW149, MW151, MW157.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and equipment rinsate blank (rinsate) samples. Duplicate samples are to be collected at a minimum frequency of 1 in 10 primary samples. Rinsate samples are to be collected at a rate of one sample per fieldwork day by pouring laboratory supplied PFAS free deionised water over the decontaminated sampling equipment.
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality will be recorded for all samples.
Decontamination Procedures	Non-dedicated equipment in contact with groundwater (i.e. interface probe and water quality meter probe) will be decontaminated by being cleaned with a PFAS-free detergent and PFAS-free deionised water supplied by the analytical laboratory.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.
Sampling Schedule	The monitoring at AACO will include two monitoring events, as detailed below: **Annual Comprehensive:** 96 monitoring wells and residential bores have been selected for the annual comprehensive sampling event (March/April). This includes 13 monitoring wells at Brymaroo. **Targeted:** 48 monitoring wells and residential bores have been selected for the targeted sampling event (October).

4.4.2 Surface Water Sampling

The surface water sampling methodology and schedule is presented in **Table 9**.

Table 9 Surface Water Sampling Methodology and Schedule

Item	Details
Sample Collection Methodology	Samples to be collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container should be lowered into the water with the cap immediately applied once the container is full.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and equipment rinsate blank (rinsate) samples. Duplicate samples are to be collected at a minimum frequency of 1 in 10 primary samples. Rinsate samples are to be collected at a rate of one sample per fieldwork day by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment.
Field Parameters	Temperature, EC, DO, ORP, pH and observations of water quality will be recorded for all samples.
Decontamination Procedures	Non-dedicated equipment in contact with groundwater (i.e. interface probe and water quality meter probe) will be decontaminated by being cleaned with a PFAS-free detergent and PFAS-free deionised water supplied by the analytical laboratory.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.
Sampling Schedule	The surface water sampling will be conducted annually as part of the annual comprehensive event (March/April).

4.4.3 Sediment Sampling

The surface water sampling methodology and schedule are outlined in **Table 10**.

Table 10 Sediment Sampling Methodology and Schedule

Item	Details
Sample Collection Methodology	Samples representative of potentially deposited sediments to be collected from within the water body if possible. Sediment samples will be collected using a trenching shovel from the base of the drain (where possible), or using a Dormer Piston Sediment Sampler or a hand-grab sample using a clean pair of nitrile gloves. At each location, a new laboratory supplied container should be used for each sample.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and equipment rinsate blank (rinsate) samples. Duplicate samples are to be collected at a minimum frequency of 1 in 10 primary samples. Rinsate samples are to be collected at a rate of one sample per fieldwork day by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.
Sampling Schedule	The sediment sampling will be conducted annually as part of the annual comprehensive event (March/April).

4.4.4 Biota Sampling

Ad hoc biota samples may be collected at the request of Defence in accordance with the sampling methodology and schedule presented in **Table 11**.

Table 11 Biota Sampling Methodology and Schedule

Item	Details
Sample Collection Methodology	Targeting sampling of biota (e.g. aquatic biota such as fish, crayfish) may need to be conducted on an ad hoc basis. Appropriate sampling techniques will be used to collect the samples; for example gill nets or electro fishing will be used to collect fish, sample traps could be used to collect crayfish. Where required, samples will be collected by a qualified contractor holding a general fisheries permit for the collection of tissue samples. Where required to obtain sufficient sample mass for laboratory analysis, multiple specimens of the same species may need to be composited. Sampling of fish for human health assessment will require targeting of fish of consumptive size. Samples will be identified, measured, weighed, photographed and placed in a zip lock bag following euthanasia in ice slurry.
QA/QC Samples to be Collected	No QA/QC samples will be collected.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection for biota samples.
Sampling Schedule	Samples will be collected on an ad hoc basis at the request of Defence.

4.4.5 Sample Handling and Transport to Laboratory

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

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

Samples will be transported to the laboratory for analytical testing under standard chain of custody (CoC) documentation. Primary and associated duplicate QA/QC samples will be analysed by ALS Brisbane. The inter-laboratory duplicate samples will be analysed by the National Measurement Institute (NMI) or Eurofins Brisbane.

4.5 Calibration

The water quality meter will be calibrated each day prior to the commencement of field activities with relevant solutions, including pH, EC and ORP. The calibration will be in accordance with manufacturers' instructions or National Association of Testing Authorities (NATA) publication "General Requirements for Registration: Supplementary Requirement: Chemical Testing (NATA 1993) and Technical Note N0. 19 (NATA 1994)". Where satisfactory calibration cannot be achieved, the water quality data will not be used for interpretive purposes.

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

A calibrated interface probe should be used for the gauging of the monitoring wells with a copy of the calibration certificate included in the Sampling Event Factual Reports.

4.6 Logistics

The laboratory sample containers will be collected from the laboratory prior to the commencement of fieldwork. All samples will be transported by an ALS by the field team or a supplied courier at the completion of fieldwork. All inter-laboratory duplicate samples will be couriered from ALS to the secondary laboratory under a separate CoC documentation for analysis.

4.7 Analytical Suite and Laboratory Analysis Methods

4.7.1 Laboratory NATA Accreditation Details

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

The primary laboratory selected for this program is ALS (NATA Accreditation Number 825). The secondary laboratories selected for this program are NMI (NATA Accreditation Number 198) and Eurofins Brisbane (NATA Accreditation Number 1261).

4.7.2 Analytical Schedule

All media sampled shall be analysed for the extended PFAS suite as outlined in **Table 12** below.

Table 12 Sample Analytical Suite for PFAS

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

The current standard laboratory limits of reporting (LOR) are described in **Table 13** below.

Table 13 Laboratory Limits of Reporting

Sample Media	Parameter	Technique/Method Reference	LOR*
Groundwater and Surface Water	Extended PFAS Suite	LC/MS-MS	0.002 – 0.1 µg/L
Sediment	Extended PFAS Suite	LC/MS-MS	0.0002 – 0.001 mg/kg

LC/MS-MS = Liquid chromatography–mass spectrometry, GC = Gas chromatography, *LOR for Australian Laboratory Services (ALS)

4.8 Sample Nomenclature

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

PPPP_XX000_ZZZ_YYMMDD

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

e.g. 0902_MW01_191015

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

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

- SD = sediment – top depth required
- MW = monitoring well
- SW = surface water - no depth required

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

- Duplicate: PPPP_QC1XX_YYMMDD
- Triplicate: PPPP_QC2XX_YYMMDD
- Rinsate: PPPP_QC3XX_YYMMDD

4.9 Defence ESdat Requirements

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

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

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

4.10 Adopted Screening Criteria

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

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

- PFAS NEMP, version 2.0 (HEPA 2020)
- Department of Health (DoH), 2019. Health Based Guidance Values for PFAS for use in site investigations in Australia. September 2019
- NHMRC, 2019. Guidance on PFAS in Recreational Water. August 2019
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 14** below.

Table 14 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking water - groundwater	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP, 2020 are from DoH 2017, which published final health-based guidance values for PFAS for use in site investigations in Australia. DoH utilised the TDI for PFOS and PFOA from FSANZ, 2017 and the methodology described in Chapter 6.3.3 of the National Health and Medical Research Council's (NHMRC) Australian Drinking Water Guidelines (ADWG), 2016 to determine drinking water values. *All groundwater results will be compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events / year) to calculate an annual ingestion rate of 30 L per year. *All surface water results will be compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			

Pathway	Compound	Criteria	Comment / Reference
Freshwater (99% species protection values)	PFOS PFOA	0.00023 µg/L 19 µg/L	The values are from the PFAS NEMP, 2020 which endorsed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality – draft default guideline values. AECOM understands that these guidelines are currently being reviewed and will consider the appropriateness of considering any future revision. The 99% level of protection has been applied for slightly to moderately disturbed ecosystems. This approach is generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. For the purposes of preliminary screening of analytical water results, the laboratory LOR will be adopted rather than sole use of the criteria value. *All surface water and groundwater results will be compared to these criteria.*

There are currently no PFAS screening criteria available in Australia for sediment.

4.11 Waste Management

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

Waste water generated will be provided to the on-site groundwater treatment plant for disposal.

All consumables (i.e. HydraSleeves™, filter cartridges, general rubbish) will be bagged and placed in on-site general waste bins for disposal.

4.12 Quality Assurance/Quality Control Sampling

4.12.1 Field Duplicate and Inter-laboratory Duplicate Samples

Field duplicate (intra-laboratory) duplicate samples and split (inter-laboratory field duplicates) are to be collected and analysed at a minimum frequency of 1 in 10 primary samples.

4.12.2 Rinsate Samples

Rinsate samples are to be collected at a rate of one sample per fieldwork day or at least one rinsate sample per ten primary samples (whichever rate is lower) by pouring laboratory supplied deionised water over the decontaminated sampling equipment.

4.13 Fieldwork Documentation

4.13.1 Field Notes

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

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

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

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

4.13.2 Sample Labels

Sample containers will be labelled, as a minimum, with the following information:

- AECOM project number
- Name of sampler
- Sample ID
- Date of sample collection
- Filtered vs non-filtered (for water samples only).

An indelible felt pen will be used for labelling, to ensure that the lettering is not erased during transit to the laboratory.

AECOM will utilize the tablet-based ALS 'Compass' sample management application to streamline sample labelling and CoC creation to ensure compliant sample IDs are used in the field.

4.13.3 Chain of Custody Forms

A CoC form will be completed, documenting the sample identification number and analytes. The CoC documents the chain of events from sample collection to delivery at the laboratory and provides a traceable account of sample handling. The CoC form will be signed by both the sample collector and the receiving laboratory.

The CoC form will include the following information:

- Job number (Note: the name of the site is not identified for confidentiality purposes)
- Date and time of sample collection
- Sample ID
- Type of containers
- Name of sampler
- Laboratory to be used
- Analyses required
- Any comments
- Signatures of the sampler and laboratory receiver.

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

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

4.13.4 Sampling Documentation

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

- Name of sampler

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

Records of all equipment calibration will be included in the Sampling Event Factual Reports.

4.14 Reporting

4.14.1 Sampling Event Factual Report

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

- details of the scope of monitoring completed
- a description of the sampling methodologies used
- a summary of observations made while sampling (e.g. any visual or olfactory observations that may indicate impacts to surface water or groundwater)
- a summary of any changes to the monitoring network condition that may affect data integrity, or require rectification works, and recommendations for repair, replacement of decommissioning of a location
- a presentation of the analysis results in a table that includes comparisons with PFAS guidelines, highlighting any significant statistical deviations from historical monitoring and investigation data
- a presentation of the reduced groundwater levels for the event on a figure with inferred contours and inferred groundwater flow direction
- discussion of the analytical data quality, including review of the quality control sampling results and laboratory quality control data
- inclusion of the following information as attachments:
- Groundwater sampling forms including field water quality parameter measurements;
    i. COC forms;
    ii. Laboratory analytical certificates; and
    iii. Equipment calibration certificates.

4.14.2 Annual Interpretive Report

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

- evidence of compliance with the requirements of the SAQP and meeting stated objectives of the OMP (Defence, 2019)
- relevant figures depicting sampling locations and site-specific hydrogeological features
- laboratory results and analysis including comparison with relevant screening criteria as identified in each OMP (Defence, 2019)
- assessment and commentary on appropriate QA/QC procedures
- a review of the CSM and provision of a revised CSM if required

- data interpretation, including trends in groundwater concentration, gradient and flow directions
- assessment of statistically based trends that may inform decision making when it comes to the revision of an OMP (Defence, 2019)
- a statement as to whether the risk profile has changed overall, or for any specific location at the Site, and a recommendation as to whether this should trigger an OMP and/or PMAP review, or other action.

4.15 Deviations from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the OMP (Defence, 2019), a number of points of deviation are noted (refer to **Table 15** below).

Table 15 Deviations from OMP

No.	Description	Rationale
1	Use of HydraSleeves™ rather than low flow / bladder pumps for the collection of groundwater samples	The AACO OMP specified that groundwater samples were to be collected using low flow sampling equipment (bladder pump) where depth to groundwater is less than 50 metres below ground surface (mbgs). As part of AECOM's tender submission for the Defence OMP Program in March 2019, it was proposed to complete groundwater sampling across all Defence regions utilising no-purge HydraSleeves™. In addition to time and cost saving considerations, the adoption of HydraSleeves™ across the broader program was aimed to improve consistency, quality and comparability of groundwater data across sites and regions.
2	Adoption of Revised Recreational Screening Criteria for PFOS+PFHxS and PFOA	Following the release of the PMAP and OMP in July 2019, the National Health and Medical Research Council (NHMRC), published guidance on PFAS in Recreational Water in August 2019. The adopted screening criteria for PFOS+PFHxS and PFOA in surface water have therefore been revised to 2 µg/L and 10 µg/L, respectively.
3	Monitoring locations removed from the OMP in 2019	Prior to the first sampling event in 2019, Defence instructed the removal of sampling of bores owned by Toowoomba Regional Council and removal of sampling of residential bores where there will be no significant effect on the understanding of the extent of PFAS in groundwater. Where a significant effect is identified, alternative bores have been included. The following bores have been removed from the OMP: Comprehensive (March/April) event: MW106, MW107, MW108, MW027, MW034, MW037, MW091, MW004, MW006, MW100, MW011, MW023, MW029, MW045, MW063, MW064, MW046, MW056, MW138, MW119, MW142. Targeted (October) event: MW106, MW107, MW108, MW021, MW046, MW056, MW293. The following bores were added to the OMP: Comprehensive (March/April) event: MW022, MW084. Targeted (October) event: MW022, MW084, MW269, MW272, MW276.
4	Changes to the analytical suite	Analysis for non-PFAS analytes was included during the first three monitoring events (October 2019, March/April 2020 and October 2020) with 20% of groundwater, surface water and sediment samples analysed for major ions, total suspended solids, electrical conductivity, total organic content or dissolved organic content and cation exchange capacity. Defence has instructed non-PFAS analysis to be discontinued from the March/April 2021 sampling event.
5	Monitoring locations changed in 2022	Due to the property owner declining permission in 2021, the following bores have been removed from the OMP: MW020, MW022, MW031, MW160. MW253 and MW254 were decommissioned in 2021 by Defence. These wells were replaced with MW562 and MW563 in January 2022.

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Appendix A

Figures

Appendix A Figures

LEGEND

On-Site Groundwater Monitoring Locations

Site Boundary

0 75 150 300 m

AECOM

SCALE 1:9,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 1: On-Site Groundwater Monitoring Locations

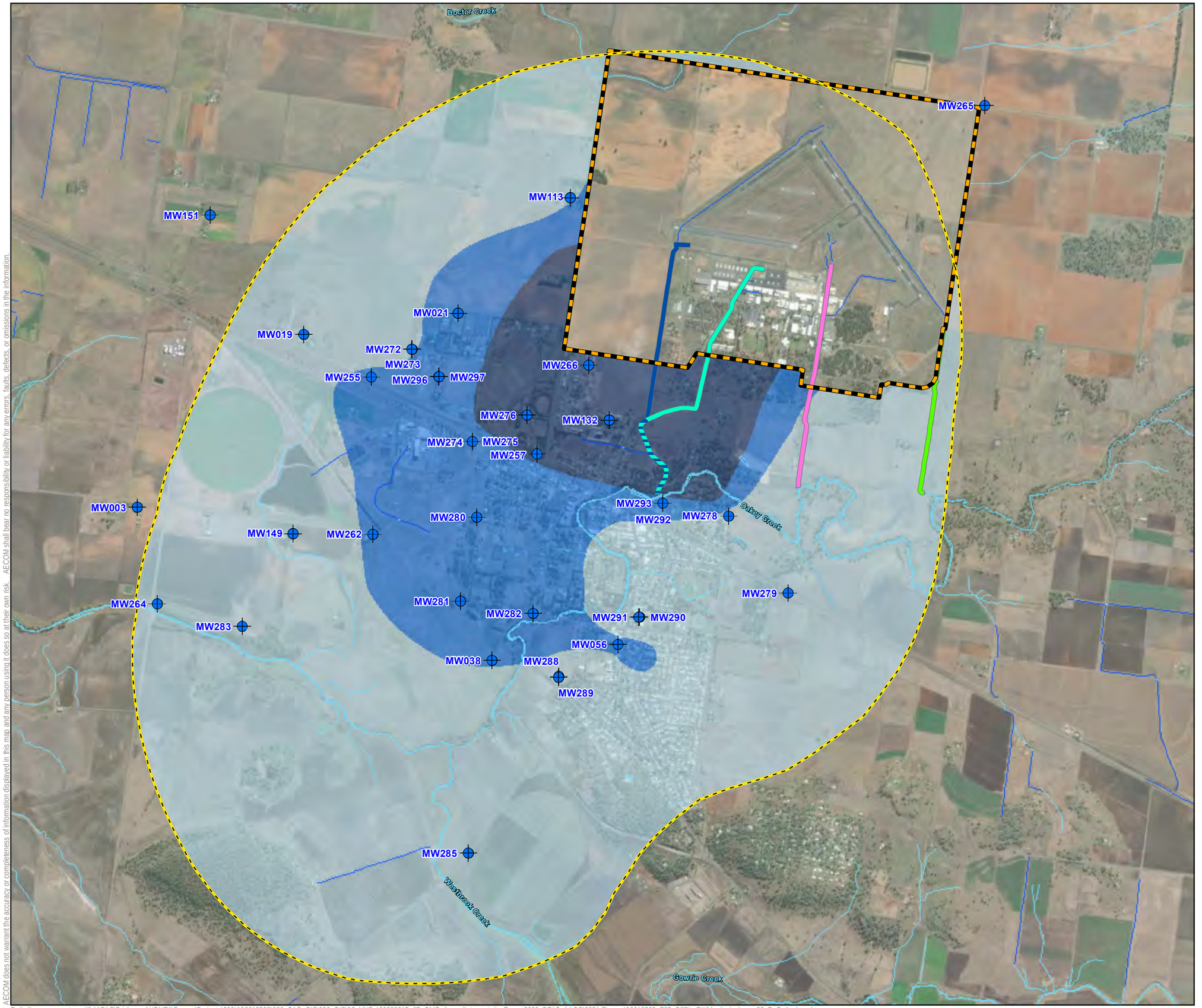
PROJECT

PFAS OMP - AACO SAQP

CLIENT

DEPARTMENT OF DEFENCE

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\SAQP Rev 3 Feb 2022_0207_AACO_P60612563_OMPR2_Figure1_OnSiteGWMonitoringLoc.mxd



AECOM

www.aecom.com

- Off-Site Groundwater Monitoring Well
- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Management Area
- Site Boundary

Monitoring wells and residential bores have only been included here if the landholder gave permission. As a result, not all monitoring wells and residential bores are depicted on the figure.

SIZE

0 0.25 0.5 1 km

AECOM

1:32,000

SIZE A3

TITLE

Figure 2: Off-Site Groundwater Monitoring Locations

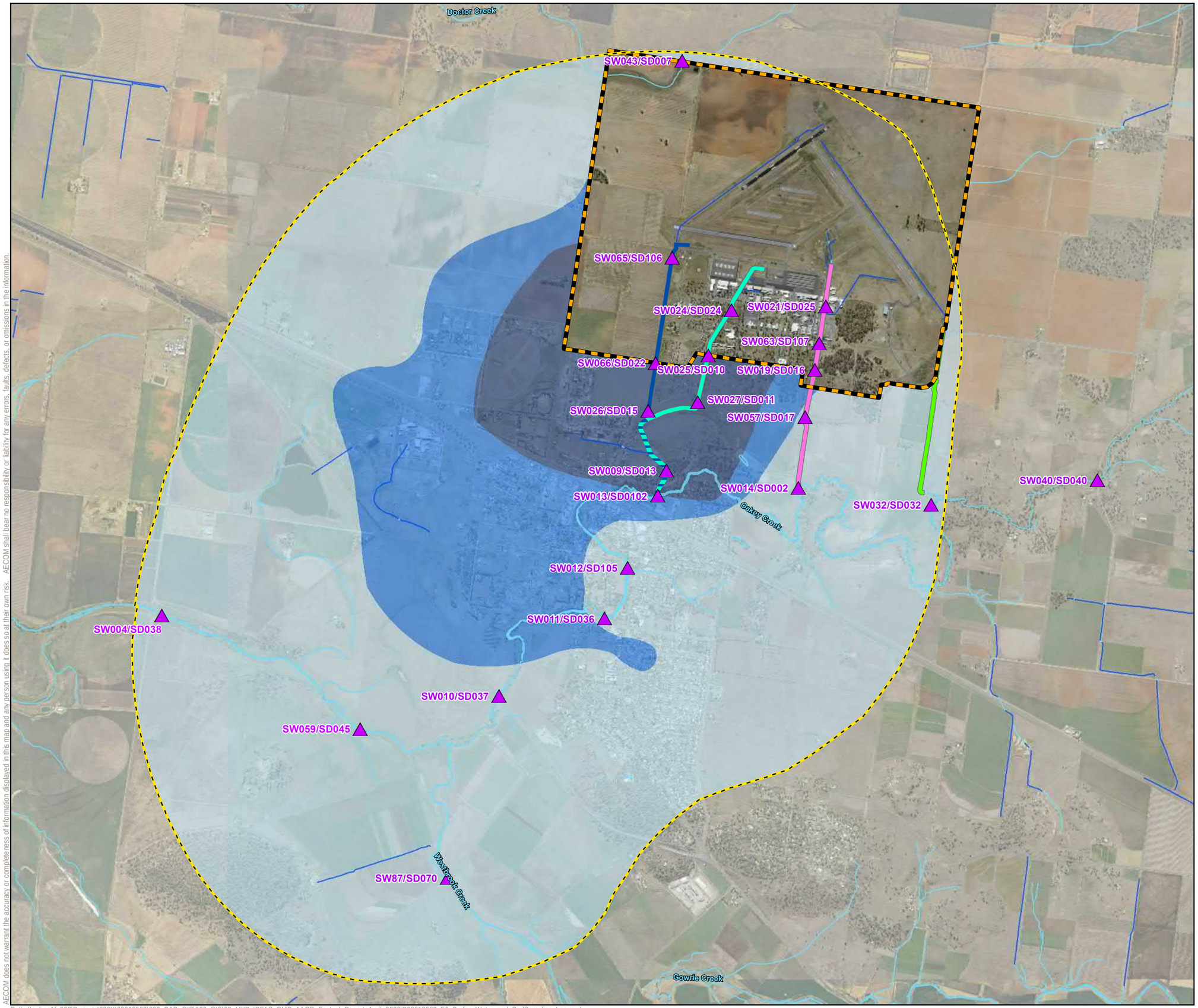
PROJECT

PFAS OMP - AACO SAQP

CLIENT

DEPARTMENT OF DEFENCE

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\20200817_JP_OMP_AnnualInterpretativeReport2020_PFAS_AACO\2021 Figures\60612563_F05_OffSiteGWMonitoringLoc_v03_RePathed.mxd



LEGEND

- Offsite Surface Water and Sediment Sampling Locations
- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Management Area
- Site Boundary

km
0 0.25 0.5 1

AECOM

SCALE 1:32,000
SIZE A3
SHEET **1 of 1**
COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 3: Surface Water and Sediment Sampling Locations

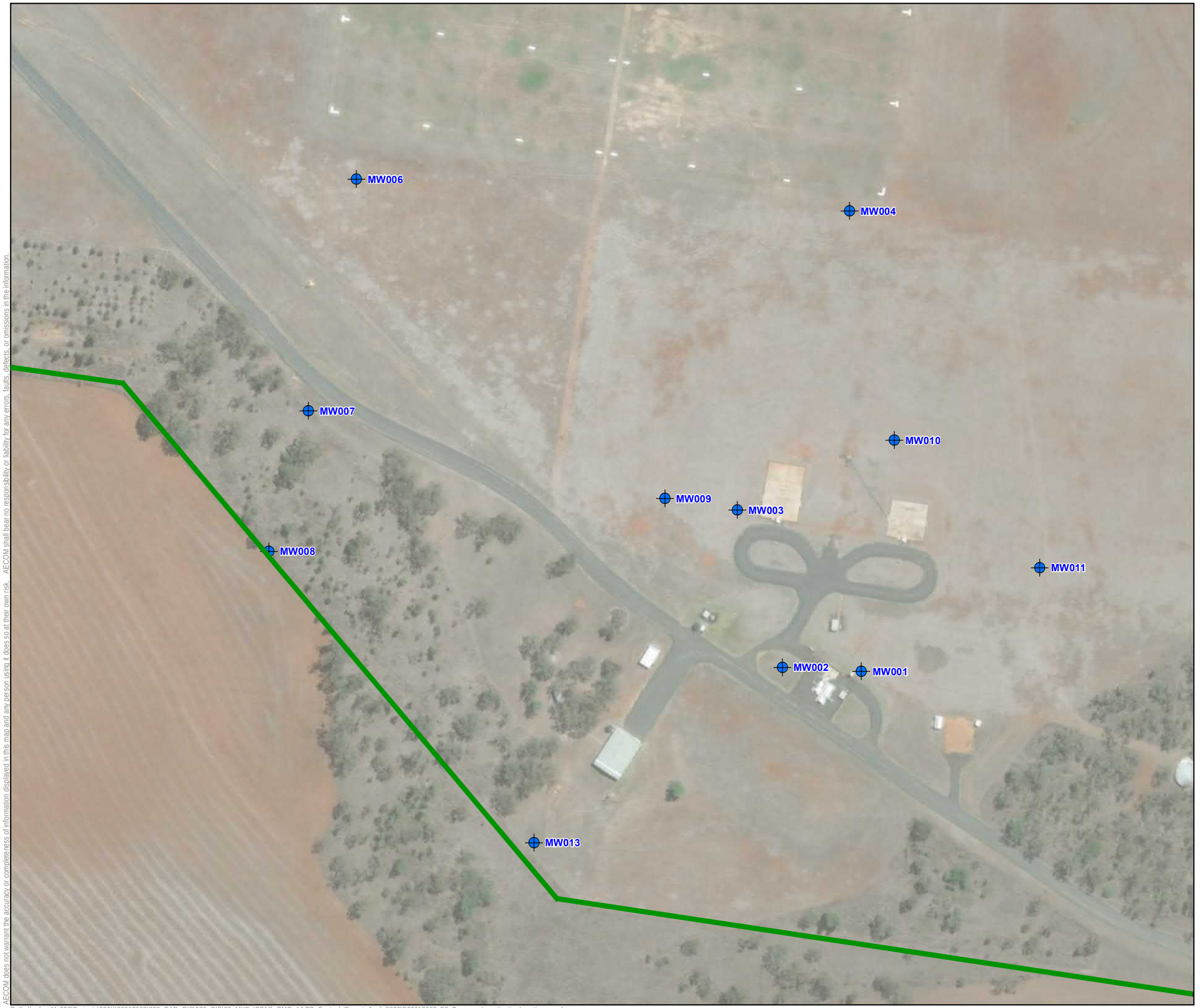
PROJECT

PFAS OMP- AACO SAQP

CLIENT

DEPARTMENT OF DEFENCE

Path: \\aubne1fp003\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\PFAS_OMP_AACO_Factual_Report_April_2020\P60612563_F6_SurfaceWater_and_SedSampling_Loc.mxd



LEGEND

- Groundwater Monitoring Locations
- Brymaroo Satellite Site Boundary

N

0 10 20 40 m

AECOM

SCALE 1:2,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 4: Brymaroo Groundwater Monitoring Locations

PROJECT

PFAS OMP AACO SAQP

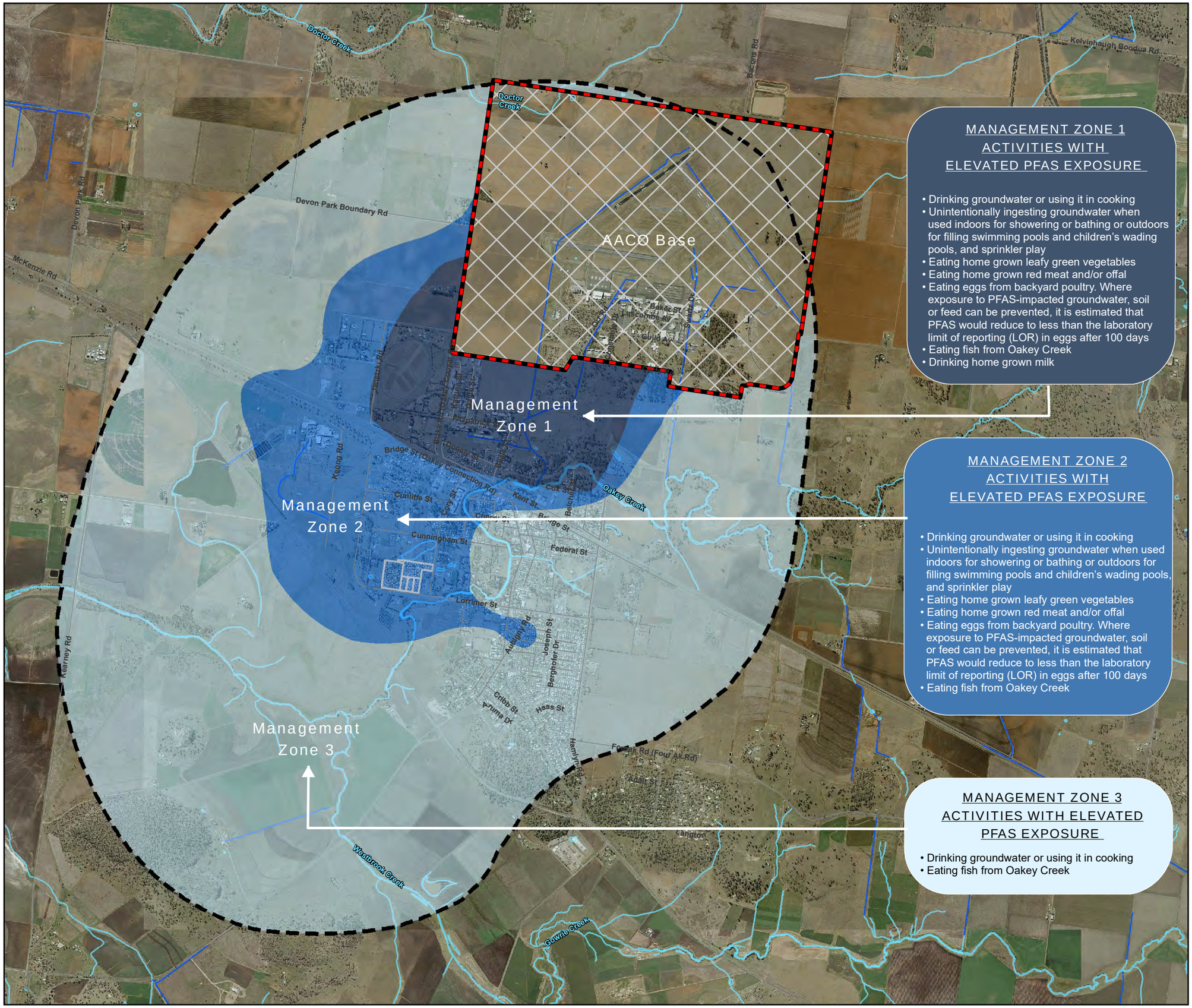
CLIENT

DEPARTMENT OF DEFENCE

Path: \\aubne1fp003\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\PFAS_OMP_AACO_Factual_Report_April_2020\P60612563_F5_BrymarooInvestigationLocations.mxd

Appendix B

AACO Management Area



LEGEND

- Drainage channel
- Watercourse/water body
- Former Landfill
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- AACO Base

0 0.25 0.5 1 km

SCALE 1:35,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 1 : Management Zones - Activities with Elevated PFAS Exposure

PROJECT

ARMY AVIATION CENTRE OAKEY (AACO) INFORMATION SESSIONS DECEMBER 2017

CLIENT

DEPARTMENT OF DEFENCE

Appendix C

Sample IDs

Appendix C Sample IDs

AACO

New Location Code (0207)	Old Location Code
MW001	AACO-GW01
MW002	AACO-GW02
MW003	AACO-GW03
MW004	AACO-GW04
MW005	AACO-GW05
MW006	AACO-GW06
MW007	AACO-GW07
MW008	AACO-GW08
MW009	AACO-GW09
MW010	AACO-GW10
MW011	AACO-GW11
MW012	AACO-GW12
MW013	AACO-GW13
MW014	AACO-GW14
MW015	AACO-GW15
MW016	AACO-GW16
MW017	AACO-GW17
MW018	AACO-GW18
MW019	AACO-GW19
MW020	AACO-GW20
MW021	AACO-GW21
MW022	AACO-GW22
MW023	AACO-GW23
MW024	AACO-GW24
MW025	AACO-GW25
MW026	AACO-GW26
MW027	AACO-GW27
MW028	AACO-GW28
MW029	AACO-GW29
MW030	AACO-GW30
MW031	AACO-GW31
MW032	AACO-GW32
MW033	AACO-GW33
MW034	AACO-GW34
MW035	AACO-GW35
MW036	AACO-GW36
MW037	AACO-GW37
MW038	AACO-GW38
MW039	AACO-GW39
MW040	AACO-GW40
MW041	AACO-GW41
MW042	AACO-GW42
MW043	AACO-GW43
MW044	AACO-GW44

New Location Code (0207)	Old Location Code
MW045	AACO-GW45
MW046	AACO-GW46
MW047	AACO-GW47
MW048	AACO-GW48
MW049	AACO-GW49
MW050	AACO-GW50
MW051	AACO-GW51
MW052	AACO-GW52
MW053	AACO-GW53
MW054	AACO-GW54
MW055	AACO-GW55
MW056	AACO-GW56
MW057	AACO-GW57
MW058	AACO-GW58
MW059	AACO-GW59
MW060	AACO-GW60
MW061	AACO-GW61
MW062	AACO-GW62
MW063	AACO-GW63
MW064	AACO-GW64
MW065	AACO-GW65
MW066	AACO-GW66
MW067	AACO-GW67
MW068	AACO-GW68
MW069	AACO-GW69
MW070	AACO-GW70
MW071	AACO-GW71
MW072	AACO-GW72
MW073	AACO-GW73
MW074	AACO-GW74
MW075	AACO-GW75
MW076	AACO-GW76
MW077	AACO-GW77
MW078	AACO-GW78
MW079	AACO-GW79
MW080	AACO-GW80
MW081	AACO-GW81
MW082	AACO-GW82
MW083	AACO-GW83
MW084	AACO-GW84
MW085	AACO-GW85
MW086	AACO-GW86
MW087	AACO-GW87
MW088	AACO-GW88
MW089	AACO-GW89
MW090	AACO-GW90
MW091	AACO-GW91
MW092	AACO-GW92

New Location Code (0207)	Old Location Code
MW093	AACO-GW93
MW094	AACO-GW94
MW095	AACO-GW95
MW096	AACO-GW96
MW097	AACO-GW97
MW098	AACO-GW98
MW099	AACO-GW99
MW100	AACO-GW100
MW106	AACO-BORE5
MW107	AACO-BORE6
MW108	AACO-BORE7
MW109	AACO-BORE8
MW110	AACO-RN87015
MW112	AACO-RN137030
MW113	AACO-RN48068
MW114	AACO-RN44070
MW115	AACO-RN26097
MW116	AACO-RN64115
MW117	AACO-RN55116
MW118	AACO-RN107119
MW119	AACO-RN35185
MW120	AACO-RN83204
MW121	AACO-RN147211
MW122	AACO-RN83214
MW123	AACO-RN36256
MW124	AACO-RN66256
MW125	AACO-RN119261
MW126	AACO-RN83264
MW127	AACO-RN66274
MW128	AACO-RN137284
MW129	AACO-RN61286
MW130	AACO-RN119324
MW132	AACO-RN147352
MW133	AACO-RN43357
MW134	AACO-RN83362
MW135	AACO-RN87369
MW138	AACO-RN36426
MW139	AACO-RN137433
MW140	AACO-RN87439
MW141	AACO-RN35453
MW142	AACO-RN64455
MW143	AACO-RN147464
MW144	AACO-RN147480
MW145	AACO-RN61496
MW146	AACO-RN66503
MW147	AACO-RN107547
MW148	AACO-RN16592
MW149	AACO-RN43659

New Location Code (0207)	Old Location Code
MW150	AACO-RN87659
MW151	AACO-RN86696
MW152	AACO-RN147699
MW153	AACO-RN137706
MW154	AACO-RN86733
MW155	AACO-RN107812
MW156	AACO-RN87870
MW157	AACO-RN21897
MW158	AACO-RN21974
MW159	AACO-RN35983
MW160	AACO-RN21997
MW161	AACO-RN52999
MW167	AACO-MWA1-B
MW168	AACO-MWA1-D
MW169	AACO-MWA2-A
MW170	AACO-MWA2-B
MW171	AACO-MWA2-C
MW172	AACO-MWA2-D
MW173	AACO-MWA2-E
MW174	AACO-MWA4-A
MW176	AACO-MWA4-B-BB
MW177	AACO-MWA4-B-LA
MW178	AACO-MWA4-B-UA
MW179	AACO-MWA5-A-LA
MW180	AACO-MWA5-A-UA
MW185	AACO-MWB3-A
MW186	AACO-MWB3-B
MW187	AACO-MWB5-A
MW188	AACO-MWB5-A-WCM
MW189	AACO-MWB5-B
MW190	AACO-MWB5-C
MW191	AACO-MWB5-D
MW193	AACO-MWC1-C
MW198	AACO-MWC1-H
MW199	AACO-MWC1-I
MW201	AACO-MW201
MW202	AACO-MW202
MW203	AACO-MW203
MW204	AACO-MW204
MW205	AACO-MW205
MW206	AACO-MWC2-A
MW207	AACO-MWC2-B
MW208	AACO-MWC2-C
MW217	AACO-MWC2-D
MW218	AACO-MWC2-E
MW221	AACO-MWC2-I
MW222	AACO-MWC2-K
MW223	AACO-MWC2-L

New Location Code (0207)	Old Location Code
MW224	AACO-MWC2-M
MW225	AACO-MWC2-N
MW226	AACO-MWC2-O
MW227	AACO-MWC2-Q
MW228	AACO-MWC3-A
MW229	AACO-MWC3-I
MW230	AACO-MWD2-A
MW231	AACO-RN87231
MW232	AACO-MWD2-E
MW233	AACO-MWE-J
MW235	AACO-MWF1-B
MW236	AACO-MWF1-C
MW240	AACO-MWF1-G
MW241	AACO-MWF1-H
MW242	AACO-MWG1-A-LA
MW245	AACO-MWG1-C-LA
MW247	AACO-MWN-B
MW249	AACO-MWN-D
MW250	AACO-MWN-H-LA
MW252	AACO-MWN-I
MW253	AACO-MWN-J
MW254	AACO-MWN-K
MW255	AACO-MWO-A-LA
MW256	AACO-MWO-A-UA
MW257	AACO-MWO-B-LA
MW258	AACO-MWO-B-UA
MW261	AACO-MWO-D-LA
MW262	AACO-MWO-D-UA
MW263	AACO-MWO-E-LA
MW264	AACO-MWO-E-UA
MW265	AACO-MWO-F-AL
MW266	AACO-MWO-G-AL
MW267	AACO-MWO-H-AL
MW268	AACO-MWO-H-UA
MW269	AACO-MWO-H-WCM
MW270	AACO-MWO-I-AL
MW271	AACO-MWO-I-MRV
MW272	AACO-MWO-J-AL
MW273	AACO-MWO-J-WCM
MW274	AACO-MWO-K-AL
MW275	AACO-MWO-K-MRV
MW276	AACO-MWO-L-AL
MW278	AACO-MWO-M-AL
MW279	AACO-MWO-N-AL
MW280	AACO-MWO-O-AL
MW281	AACO-MWO-P-AL
MW282	AACO-MWO-Q-AL
MW283	AACO-MWO-R-AL

New Location Code (0207)	Old Location Code
MW285	AACO-MWO-T-AL
MW288	AACO-MWO-V-AL
MW289	AACO-MWO-V-WCM
MW290	AACO-MWO-W-AL
MW291	AACO-MWO-W-WCM
MW292	AACO-MWO-X-AL
MW293	AACO-MWO-X-WCM
MW294	AACO-MWO-Y-AL
MW295	AACO-MWO-Y-WCM
MW296	AACO-MWO-Z-AL
MW297	AACO-MWO-Z-WCM
MW298	AACO-MWS1-A
MW299	AACO-MWS1-B
MW300	AACO-MWS1-D
SD001	AACO-SED001
SD002	AACO-SED002
SD004	AACO-SED004
SD005	AACO-SED005
SD006	AACO-SED006
SD007	AACO-SED007
SD008	AACO-SED08
SD009	AACO-SED09
SD010	AACO-SED010
SD011	AACO-SED011
SD012	AACO-SED012
SD013	AACO-SED013
SD014	AACO-SED014
SD015	AACO-SED015
SD016	AACO-SED016
SD017	AACO-SED017
SD019	AACO-SED019
SD020	AACO-SED020
SD021	AACO-SED021
SD022	AACO-SED22
SD023	AACO-SED23
SD024	AACO-SED24
SD025	AACO-SED25
SD030	AACO-SED030
SD031	AACO-SED031
SD032	AACO-SED032
SD035	AACO-SED035
SD036	AACO-SED036
SD037	AACO-SED037
SD040	AACO-SED040
SD041	AACO-SED041
SD042	AACO-SED042
SD044	AACO-SED044
SD045	AACO-SED045

New Location Code (0207)	Old Location Code
SD046	AACO-SED046
SD047	AACO-SED047
SD048	AACO-SED048
SD049	AACO-SED049
SD050	AACO-SED050
SD051	AACO-SED051
SD052	AACO-SED052
SD053	AACO-SED053
SD054	AACO-SED054
SD055	AACO-SED055
SD056	AACO-SED056
SD057	AACO-SED057
SD058	AACO-SED058
SD059	AACO-SED059
SD060	AACO-SED060
SD061	AACO-SED061
SD062	AACO-SED062
SD063	AACO-SED063
SD064	AACO-SED064
SD065	AACO-SED065
SD066	AACO-SED66
SD067	AACO-SED67
SD068	AACO-SED68
SD070	AACO-SED070
SD074	AACO-SED018A
SD075	AACO-SED018B
SD076	AACO-SED033A
SD077	AACO-SED033B
SD078	AACO-SED034A
SD079	AACO-SED034B
SD100	AACO-SED100
SD102	AACO-SED102
SD103	AACO-SED103
SD104	AACO-SED104
SD105	AACO-SED105
SD106	AACO-SED106
SD107	AACO-SED107
SW001	AACO-SW01
SW002	AACO-SW02
SW003	AACO-SW03
SW004	AACO-SW04
SW005	AACO-SW05
SW006	AACO-SW06
SW007	AACO-SW07
SW008	AACO-SW08
SW009	AACO-SW09
SW010	AACO-SW10
SW011	AACO-SW11

New Location Code (0207)	Old Location Code
SW012	AACO-SW12
SW013	AACO-SW13
SW014	AACO-SW14
SW015	AACO-SW15
SW016	AACO-SW16
SW017	AACO-SW17
SW018	AACO-SW18
SW019	AACO-SW19
SW020	AACO-SW20
SW021	AACO-SW21
SW022	AACO-SW22
SW023	AACO-SW23
SW024	AACO-SW24
SW025	AACO-SW25
SW026	AACO-SW26
SW027	AACO-SW27
SW028	AACO-SW87
SW029	AACO-SW88
SW030	AACO-SW30
SW031	AACO-SW31
SW032	AACO-SW32
SW033	AACO-SW89
SW034	AACO-SW90
SW035	AACO-SW35
SW036	AACO-SW36
SW037	AACO-SW37
SW038	AACO-SW33A
SW039	AACO-SW33B
SW040	AACO-SW40
SW041	AACO-SW41
SW042	AACO-SW42
SW043	AACO-SW43
SW044	AACO-SW34A
SW045	AACO-SW34B
SW050	AACO-SW50
SW051	AACO-SW51
SW053	AACO-SW53
SW054	AACO-SW54
SW055	AACO-SW55
SW056	AACO-SW56
SW057	AACO-SW57
SW058	AACO-SW58
SW059	AACO-SW59
SW060	AACO-SW60
SW061	AACO-SW61
SW062	AACO-SW62
SW063	AACO-SW63
SW064	AACO-SW64

New Location Code (0207)	Old Location Code
SW065	AACO-SW65
SW066	AACO-SW66
SW067	AACO-SW67
SW068	AACO-SW68
SW069	AACO-SW69
SW070	AACO-SW70
SW071	AACO-SW71
SW072	AACO-SW72
SW073	AACO-SW73
SW074	AACO-SW74
SW075	AACO-SW75
SW076	AACO-SW76
SW077	AACO-SW77
SW078	AACO-SW78
SW079	AACO-SW79
SW080	AACO-SW80
SW081	AACO-SW81
SW082	AACO-SW82
SW083	AACO-SW83
SW084	AACO-SW84
SW085	AACO-SW85
SW086	AACO-SW86

Brymaroo

New Location Code (1435)	Old Location Code
MW001	BRY-MW-E
MW002	BRY-MW-F
MW003	BRY-MW-G
MW004	BRY-MW-H
MW005	BRY-MW-I
MW006	BRY-MW-J
MW007	BRY-MW-K
MW008	BRY-MW-L
MW009	BRY-MW-R
MW010	BRY-MW-S
MW011	BRY-MW-T
MW012	BRY-MW-U
MW013	BRY-MW-V
OTH004	WD-18-28
OTH005	WD-7-17
POT001	BRY_TW02
POT002	BRY-A17
POT003	BRY-BH-L
POT004	BRY-TAP01
POT005	BRY-TW01
SED001	BRY-SED-HP

Appendix D

Monitoring Well Construction Details

Appendix D Monitoring Well Construction Details

AACO Monitoring Wells

Location ID	Date of Installation	Easting	Northing	TOC Elevation (m AHD)	Final Depth (m)	Top of screen (mbgs)	Top of screen (mAHD)	Bottom of screen (mbgs)	Bottom of screen (mAHD)	Length of screen (m)	Midpoint of screen (mbgs)	Midpoint of screen (mAHD)	Targeted Depth for sampling (mbgs)
MW167	25/01/2011	373988.700	6967037.700	402.428	16.00	11.5	390.928	16.0	386.428	4.5	13.8	388.678	15.0
MW172	21/02/2017	373952.946	6967329.488	402.818	18.00	12.0	390.818	18.0	384.818	6.0	15.0	387.818	17.0
MW173	23/02/2017	373997.781	6967324.987	403.262	18.00	12.0	391.262	18.0	385.262	6.0	15.0	388.262	17.0
MW174	14/11/2012	374327.000	6966684.000	404.072	29.90	25.0	379.072	29.0	375.072	4.0	27.0	377.072	28.0
MW178	21/11/2015	374420.713	6966460.701	403.513	17.65	14.5	389.013	17.5	386.013	3.0	16.0	387.513	16.5
MW179	19/10/2015	373949.73	6966401.743	403.000	15.01	11.5	391.500	14.4	388.600	2.9	13.0	390.050	13.0
MW201	8/04/2016	374833.900	6966978.300	404.800	20.00	13.0	391.800	20.0	384.800	7.0	16.5	388.300	19.0
MW202	8/04/2016	374867.400	6966984.900	405.000	20.00	12.6	392.400	19.6	385.400	7.0	16.1	388.900	18.5
MW203	01/04/2016	374782.800	6966991.000	405.200	20.02	13.0	392.200	20.0	385.200	7.0	16.5	388.700	19.0
MW204	01/04/2016	374797.30	6967032.300	405.200	20.00	13.0	392.200	20.0	385.200	7.0	16.5	388.700	19.0
MW205	01/04/2016	374801.100	6967057.300	405.700	20.10	13.0	392.200	20.0	385.200	7.0	16.5	388.700	19.0
MW187	3/11/2010	374371.535	6966553.501	404.576	20.00	13.0	391.576	19.0	385.576	6.0	16.0	388.576	18.0
MW189	1/11/2010	374933.124	6966396.323	404.652	21.80	13.8	390.852	21.8	382.852	8.0	17.8	386.852	21.0
MW193	3/12/2010	375179.990	6966963.000	405.630	20.24	14.5	391.130	20.5	385.130	6.0	17.5	388.130	19.5
MW198	28/11/2010	375096.080	6966968.114	405.505	13.54	10.5	395.005	14.0	391.505	3.5	12.3	393.255	13.0
MW206	21/04/2010	375112.346	6966930.445	405.720	20.00	11.0	394.720	20.0	385.720	9.0	15.5	390.220	19.0
MW221	23/11/2010	375177.000	6966868.000	405.496	20.00	14.0	391.496	20.0	385.496	6.0	17.0	388.496	19.0
MW222	29/04/2010	375236.886	6966895.475	405.716	20.00	10.5	395.216	20.0	385.716	9.5	15.3	390.466	19.0
MW223	30/04/2010	375233.446	6966873.127	405.845	20.50	11.5	394.345	20.5	385.345	9.0	16.0	389.845	19.5
MW229	5/05/2010	375035.000	6966784.000	405.533	15.63	6.5	399.033	15.5	390.033	9.0	11.0	394.533	14.5
MW230	8/02/2017	375257.278	6966864.228	405.416	20.00	12.0	393.416	20.0	385.416	8.0	16.0	389.416	19.0
MW232	21/02/2017	375278.884	6967034.038	405.898	12.00	6.0	399.898	12.0	393.898	6.0	9.0	396.898	11.0
MW233	10/02/2017	375852.783	6966869.508	406.47	18.50	9.5	396.970	18.5	387.970	9.0	14.0	392.470	17.5
MW235	4/05/2010	375195.913	6967387.707	406.308	22.50	10.5	395.808	22.5	383.808	12.0	16.5	389.808	21.5
MW236	1/03/2011	375223.000	6967391.000	405.653	18.00	15.0	390.653	18.0	387.653	3.0	16.5	389.153	17.0
MW241	24/02/2017	375132.957	6967284.431	405.883	18.00	9.0	396.883	18.0	387.883	9.0	13.5	392.383	17.0
MW242	19/10/2015	372979.530	6966547.027	402.030	21.14	17.0	385.030	20.0	382.030	3.0	18.5	383.530	19.0
MW245	18/10/2015	373204.825	6968019.455	402.981	21.88	18.0	384.981	21.0	381.981	3.0	19.5	383.481	20.0
MW249	3/05/2010	374753.317	6967348.513	404.769	19.50	10.5	394.269	19.5	385.269	9.0	15.0	389.769	18.5
MW252	24/02/2017	375503.233	6967781.435	406.162	16.50	10.5	395.662	16.5	389.662	6.0	13.5	392.662	15.5
MW562	27/01/2022	373923.910	6967427.530	402.72	16.55	10.5	392.55	16.5	386.550	6.0	13.5	389.550	15.5
MW563	27/01/2022	374025.660	6967439.910	402.90	19.50	10.5	392.40	19.5	383.450	9.0	15.0	387.900	18.5
MW265	23/02/2017	374105.104	6967454.100	403.05	16.60	10.5	392.550	16.5	386.550	6.0	13.5	389.550	15.5
MW299	12/11/2010	374304.020	6967100.140	403.970	15.50	11.00	392.970	15.5	388.470	4.5	13.3	390.720	14.5
MW300	9/02/2017	374284.45	6967091.281	403.715	20.00	11.0	392.715	20.0	383.715	9.0	15.5	388.215	19.0
MW255	14/10/2015	371269.338	6966290.787	397.784	24.09	21.0	376.784	24.0	373.784	3.0	22.5	375.284	23.0
MW257	15/10/2015	372725.267	6965608.026	400.833	23.90	21.0	379.833	24.0	376.833	3.0	22.5	378.333	23.0
MW262	13/10/2015	371282.068	6964911.981	398.329	18.05	14.7	383.629	17.7	380.629	3.0	16.2	382.129	16.7
MW264	12/10/2015	369386.635	6964300.399	392.755	11.03	8.0	384.755	11.0	381.755	3.0	9.5	383.255	10.0
MW265	27/02/2017	376659.704	6968676.499	408.398	19.00	13.0	395.398	19.0	389.398	6.0	16.0	392.398	18.0
MW266	8/03/2017	373179.025	6966397.463	401.316	21.50	15.5	385.816	21.5	379.816	6.0	18.5	382.816	20.5

Location ID	Date of Installation	Easting	Northing	TOC Elevation (m AHD)	Final Depth (m)	Top of screen (mbgs)	Top of screen (mAHD)	Bottom of screen (mbgs)	Bottom of screen (mAHD)	Length of screen (m)	Midpoint of screen (mbgs)	Midpoint of screen (mAHD)	Targeted Depth for sampling (mbgs)
MW267	29/03/2017	373662.068	6965912.288	401.392	86.00	44.0	357.392	50.0	351.392	6.0	47.0	354.392	49.0
MW268	25/05/2017	373675.071	6965916.434	401.323	20.00	11.0	390.323	20.0	381.323	9.0	15.5	385.823	19.0
MW269	25/05/2017	373666.944	6965913.769	401.958	87.00	84.0	317.958	87.0	314.958	3.0	85.5	316.458	86.0
MW270	21/03/2017	375064.649	6965907.642	404.078	20.00	8.0	396.078	20.0	384.078	12.0	14.0	390.078	19.0
MW271	19/03/2017	375037.598	6965908.795	403.855	63.00	58.0	345.855	63.0	340.855	5.0	60.5	343.355	62.0
MW272	9/03/2017	371625.718	6966537.079	397.972	20.00	14.0	383.972	20.0	377.972	6.0	17.0	380.972	19.0
MW273	17/02/2017	371624.525	6966535.793	398.044	66.00	63.0	335.044	66.0	332.044	3.0	64.5	333.544	65.0
MW274	13/03/2017	372134.234	6965727.269	399.947	31.00	25.0	374.947	31.0	368.947	6.0	28.0	371.947	30.0
MW275	28/02/2017	372135.679	6965728.774	399.911	55.00	49.0	350.911	55.0	344.911	6.0	52.0	347.911	54.0
MW276	28/02/2017	372636.624	6965956.831	400.474	20.00	14.0	386.474	20.0	380.474	6.0	17.0	383.474	19.0
MW278	28/02/2017	374408.336	6965071.276	404.155	22.00	16.0	388.155	22.0	382.155	6.0	19.0	385.155	21.0
MW279	28/02/2017	374930.620	6964394.070	406.341	20.00	12.3	394.041	18.3	388.041	6.0	15.3	391.041	17.0
MW280	27/02/2017	372195.219	6965061.244	398.486	30.00	24.0	374.486	30.0	368.486	6.0	27.0	371.486	29.0
MW281	27/02/2017	372053.568	6964321.963	396.856	20.00	14.0	382.856	18.8	378.056	4.8	16.4	380.456	18.0
MW282	27/02/2017	372687.834	6964215.533	397.327	17.00	10.0	387.327	16.0	381.327	6.0	13.0	384.327	15.0
MW283	19/04/2017	370134.309	6964100.382	395.371	15.00	12.0	383.371	15.0	380.371	3.0	13.5	381.871	14.0
MW285	6/04/2017	372119.867	6962108.831	398.331	10.50	7.5	390.831	10.5	387.831	3.0	9.0	389.331	9.5
MW288	25/05/2017	372916.724	6963661.002	402.161	22.50	18.0	384.161	21.0	381.161	3.0	19.5	382.661	20.0
MW289	25/05/2017	372912.799	6963651.994	402.072	65.00	61.0	341.072	64.0	338.072	3.0	62.5	339.572	63.0
MW290	7/04/2017	373624.533	6964182.101	403.688	21.00	14.0	389.688	21.0	382.688	7.0	17.5	386.188	20.0
MW291	25/03/2017	373619.513	6964183.05	403.709	56.00	53.0	350.709	56.0	347.709	3.0	54.5	349.209	55.0
MW292	29/03/2017	373842.166	6965189.151	401.818	20.00	13.0	388.818	19.0	382.818	6.0	16.0	385.818	18.0
MW293	27/03/2017	373829.134	6965184.296	402.021	68.00	59.0	343.021	68.0	334.021	9.0	63.5	338.521	67.0
MW294	18/04/2017	374648.616	6965454.601	403.780	20.00	14.0	389.780	20.0	383.780	6.0	17.0	386.780	19.0
MW295	22/03/2017	374589.848	6965368.689	402.837	70.00	61.0	341.837	67.0	335.837	6.0	64.0	338.837	66.0
MW296	25/05/2017	371860.259	6966295.711	399.155	20.00	11.0	388.155	20.0	379.155	9.0	15.5	383.655	19.0
MW297	25/05/2017	371864.545	6966295.160	399.230	80.00	74.0	325.230	80.0	319.230	6.0	77.0	322.230	79.0
MW562	27/01/2022	373923.91	6967427.53	402.72	16.55	10.5	392.22	16.5	386.22	6.0	13.5	378.72	15.5
MW563	27/01/2022	374025.66	6967439.91	402.90	19.50	10.5	392.40	19.5	383.45	9.0	15.0	377.40	18.5

Brymaroo Monitoring Wells

MW ID	MW ID	EASTING	NORTHING	Relative Elevation (m AHD)	Screen to - from (mbgs)	Date of Installation	Total Depth (m BTOC)	Targeted depth for Hydrasleeve (mbtoc)
MW001	MW-E	363293.51	6986842.67	418.53	18 - 21	08/02/2011	21.00	20.0
MW002	MW-F	363249.61	6986844.27	418.22	17.5 - 20.5	26/08/2015	20.50	19.5
MW003	MW-G	363224.76	6986930.66	418.05	17.4 - 20.4	26/08/2015	20.40	19.5
MW004	MW-H	363286.39	6987094.84	417.38	18.5 - 25.0	1/02/2018	25.00	24.0
MW005	MW-I	363139.64	6987119.10	417.85	20.5 - 27.0	1/02/2018	27.00	26.0
MW006	MW-J	363015.56	6987112.34	416.46	20.5 - 27.0	1/02/2018	27.00	26.0
MW007	MW-K	362989.17	6986984.98	416.41	18.5 - 25.0	1/02/2018	25.00	24.0
MW008	MW-L	362967.45	6986907.97	415.19	14.5 - 21.0	1/02/2018	21.00	20.0
MW009	MW-R	363185.37	6986937.35	417.99	20.0 - 26.0	28/02/2017	26.00	25.0
MW010	MW-S	363311.34	6986969.52	418.02	21.0 - 27.1	23/02/2017	27.1	26.0
MW011	MW-T	363391.01	6986899.30	418.29	21.5 - 27.5	1/03/2017	27.5	26.5
MW012	MW-U	363239.11	6986873.82	418.34	21.5 - 27.5	28/02/2017	27.5	26.5
MW013	MW-V	363113.95	6986748.15	415.93	18.5 - 24.0	27/02/2017	24.0	23.0

Appendix F

Sampling Event Factual Reports

Prepared for
Department of Defence
ABN: 68706814312

Sampling Event Factual Report, March-May 2023

PFAS OMP - Army Aviation Centre Oakey

12-Jul-2024
Doc No. 60612563_RP_074_3_240712

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Sampling Event Factual Report, March-May 2023

PFAS OMP - Army Aviation Centre Oakey

Client: Department of Defence

ABN: 68706814312

Prepared by

,

12-Jul-2024

Job No.: 60612563

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

Quality Information

Document	Sampling Event Factual Report, March-May 2023
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Abbreviations

Abbreviation	
AACO	Army Aviation Centre Oakey
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous film forming foam
ALS	Australian Laboratory Services
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure 1999 (as amended 2013)
BOM	Bureau of Meteorology
COC	Chain of Custody
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
IP	Interface probe
LNAPL	Light non aqueous phase liquid
LOR	Limit of reporting
mAHD	metres Australian height datum
mbtoc	Metres below top of casing
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
OMP	Ongoing management plan
ORP	Oxidation reduction potential
PFAS	Per- and poly-fluorinated alkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perflurooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS management area plan
QA/QC	Quality assurance / quality control
QLD	Queensland
RPD	Relative percent difference
SAQP	Sampling analysis and quality plan
SWL	Standing water level

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

Units of Measurement			
L	Litres	m	Metres
mg	Milligram	ha	Hectares
kg	Kilogram	µg	Microgram
mV	Millivolts		

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) has been engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) (Defence, 2019) at the Army Aviation Centre Oakey (AACO) (the 'Site') and the AACO Management Area in the South Queensland Region. The OMP for AACO also includes groundwater sampling at the Brymaroo Satellite Site (Brymaroo), located approximately 25 km northwest of AACO. The locations of the Site, Brymaroo and the Management Area are shown in **Figure 1** and **Figure 2** in **Appendix A**. The OMP for AACO (Defence 2019) includes the following sampling events:

- Targeted groundwater sampling events in October 2019, October 2020 and October 2021.
- Annual comprehensive sampling events in March/April 2020, March/April 2021 and March/April 2022 including groundwater, sediment and surface water sampling.

In July 2022, Defence extended the period for the OMP sampling events by two years with additional targeted groundwater sampling events scheduled for October 2022 and October 2023 and additional annual comprehensive sampling events scheduled for March/April 2023[1] and March/April 2024.

Following each comprehensive and targeted sampling event, sampling event factual reports will be prepared. Annual interpretive reports will be prepared following the completion of each 12-month sampling period. This sampling event factual report has been prepared to report the results of the comprehensive sampling event completed between March and May 2023, specifically highlighting first-time detections and/or new exceedances of human health screening criteria for perfluorohexane sulfonate (PFHxS) and perfluorooctane sulfonate (PFOS) and / or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance,* Version 0.2, May 2021 (Defence, 2021).

1.2 Objectives

The objectives of the OMP program are to:

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

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

The objective of this phase of works is to implement the scope of works for the comprehensive March to May 2023 sampling event in accordance with the sampling analysis and quality plan (SAQP) (AECOM, 2023).

[1] A sampling visit was made on 10 May 2023 to collect two outstanding samples. Consequently, this sampling event is referred to as the March to May 2023 Sampling Event.

2.0 Scope of Work

The sampling event at AACO and Brymaroo was completed in general accordance with the SAQP (AECOM, 2023). In summary, the scope of works for this sampling event included:

- Obtaining access to private properties where some groundwater sampling locations are situated.
- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
  - PFAS National Environmental Management Plan (NEMP) (Heads of Environmental Protection Agencies [HEPA], 2020)
  - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013)
  - Defence Routine Environment Water Quality Monitoring Manual
  - AS/NZ 5667:1998 Water quality – Sampling
  - Australian and New Zealand Guidelines for Fresh and Marine Water Quality
  - Relevant State regulatory guidelines.
- Gauging of groundwater level in monitoring wells prior to collection of samples (refer to **Table 1** below, and **Figure 3**, **Figure 4** and **Figure 5** in **Appendix A** for specific locations).
- As per the SAQP (AECOM, 2023), collection of groundwater samples at 80 monitoring wells (34 at AACO, 13 at Brymaroo and 33 located off-site) and 16 off-site residential bores (refer to **Table 1** below, and **Figure 3**, **Figure 4** and **Figure 5** in **Appendix A**). Eight groundwater monitoring wells and one residential bore were not sampled. Two monitoring wells (MW296 and MW297) and one residential bore (MW132) could not be sampled as the stakeholder did not provide access permission. A further four groundwater monitoring wells could not be found (MW013 [Brymaroo], MW242, MW255, MW264 and MW279), and one monitoring well (MW289) was dry, refer to **Table 8** for details. MW242 was replaced with nearby well MW243. For data validation purposes, one residential bore (MW151) and one monitoring well (MW269), were resampled on 16 August 2023.
- Collection of co-located surface water and sediment samples at 22 locations including six on-Site and 16 off-Site locations (refer to **Table 2** and **Table 3** below, and **Figure 6** in **Appendix A**). Two locations (SW059/SD045 and SW032/SD032) were not sampled due to safety concerns regarding access. One location, SW065, was dry and only the co-located sediment sample was collected. Refer to **Table 8** for details.
- Collecting intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples and collecting one rinsate sample per fieldwork day when re-usable (i.e. decontaminated) equipment was in use.
- Analysis of all samples for a suite of 28 PFAS analytes at the standard limit of reporting (LOR).
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

In addition, repairs were made to seven monitoring well covers on 11 April 2023.

Table 1 Groundwater Sampling Locations

Location		Monitoring Wells / Residential Bores
Source Area Bores	Fire training area in the north of the Site	MW562, MW563
	Former fire station in B3	MW201, MW202, MW203, MW204, MW205
	Aqueous film forming foam (AFFF) Storage Area / D20 appliance testing area	MW221, MW222, MW230, MW232
	AFFF recovery tank in F1 / hot refuel area	MW235, MW236, MW241
	AFFF recovery tank in A2 / hot refuel area	MW172, MW173
	AFFF recovery tank in S1	MW299, MW300
	AFFF Settling tank in C1	MW193, MW198, MW207, MW223, MW229
On-Site boundary bores (Oakey Creek Alluvium)		MW167, MW174, MW178, MW179, MW187, MW189, MW233, MW242#*, MW245, MW249, MW252
Off-Site background bores (to east/ southeast of the Site)		MW265, MW279#
Off-Site south of the Site and down gradient of drainage channels and Oakey Creek		MW267, MW268, MW270, MW278, MW292, MW294, *MW032, MW132#*
Off-Site up and down gradient of landfill		MW280, MW281, MW282
Off-Site west and southwest of the Site		MW255#, MW257, MW262, MW264#, MW266, MW272, MW274, MW276, MW283, MW285, MW296#, *MW003, MW019, MW021, MW038, MW056, MW113, MW114, MW118, MW122, MW134, MW147, MW149, MW151, MW157*
Off-Site underlying aquifers to south of the Site		MW271, MW275, MW288, MW269, MW273, MW289#, MW290, MW291, MW293, MW295, MW297#
Brymaroo		MW001, MW002, MW003, MW004, MW005, MW006, MW007, MW008, MW009, MW010, MW011, MW012, MW013#

***Notes**: Italics indicate residential bores. #Wells/bores that could not be sampled during this sampling event, refer to **Section 3.4**. MW242 was replaced with MW243.*

Table 2 Surface Water Sampling Locations

Area	Description	Surface Water Sampling Locations
Creek	Oakey Creek upstream of drainage channel 3 outfall	*SW032#, SW040*
	Oakey Creek downstream of drainage channel outfalls	*SW010, SW011, SW012, SW013, SW056*
	Oakey Creek downstream of confluence with Westbrook Creek	*SW004, SW059#*
	Doctor Creek	*SW043*
	Westbrook Creek	*SW028*
Drainage Channel	Drainage Channel 1 (On-Site)	SW065#, SW066
	Drainage Channel 1 (Off-Site)	*SW026*
	Drainage Channel 2 (On-Site)	SW024, SW025
	Drainage Channel 2 (Off-Site)	SW009, SW027
	Drainage Channel 3 (On-Site)	SW019, SW021, SW063
	Drainage Channel 3 (Off-Site)	*SW057*

***Note**: Italics indicate off-site surface water location, # indicates locations not sampled, refer to **Section 3.4**.*

Table 3 Sediment Sampling Locations

Area	Description	Sediment Sampling Locations
Creek	Oakey Creek upstream of drainage channel 3 outfall	*SD032#, SD040*
	Oakey Creek downstream of drainage channel outfalls	*SD037, SD036, SD0105, SD102, SD018*
	Oakey Creek downstream of confluence with Westbrook Creek	*SD038, SD045#*
	Doctor Creek	*SD007*
	Westbrook Creek	*SD070*
Drainage Channel	Drainage Channel 1 (On-Site)	SD106, SD022
	Drainage Channel 1 (Off-Site)	*SD015*
	Drainage Channel 2 (On-Site)	SD024, SD010
	Drainage Channel 2 (Off-Site)	*SD013, SD011*
	Drainage Channel 3 (On-Site)	SD016, SD025, SD107
	Drainage Channel 3 (Off-Site)	SD017

***Note**: Italics indicate off-site sediment location, # indicates locations not sampled, refer to **Section 3.4**.*

3.0 Methodology

The methodology used for the March to May 2023 sampling event was in general accordance with the SAQP (AECOM, 2023) and is summarised below.

3.1 Groundwater Sampling Methodology

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well prior to the installation of HydraSleeves™ and immediately prior to collection of groundwater samples using an interface probe (IP).
Quality parameter field measurements	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all groundwater samples. Equipment calibration certificates are provided in **Appendix F**.
Sampling methodology	Groundwater samples were collected from monitoring wells using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. Three wells at Brymaroo (MW001, MW003 and MW012) did not have HydraSleeves™ installed. Due to restrictions in returning to this remote satellite site, these wells were sampled by bailer. Bore water samples were collected by placing the laboratory sample bottle beneath the tap and the tap slowly opened to collect the “first flush” of water.
QA/QC samples	Field quality assurance / quality control (QA/QC) samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and rinsate samples. Refer to **Appendix C** for assessment of QA/QC sample data. Rinsate samples were collected at the rate of one sample per fieldwork day by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. The only reusable equipment that was decontaminated during the sampling event was the IP.
Sample analysis	All primary samples were submitted for analysis for the PFAS suite using the standard levels of detection. Australian Laboratory Services Environmental (ALS) Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for groundwater analyses were certified by the National Association of Testing Authorities (NATA). Chain of custody (COC) forms and laboratory certificates are presented in **Appendix D** and **Appendix E** respectively.

3.2 Surface Water Sampling Methodology

Table 5 Surface Water Sampling Methodology

Item	Details
Quality parameter field measurements	Temperature, EC, DO, ORP, pH and observations of water quality were recorded for all surface water samples. Equipment calibration certificates are provided in **Appendix F**.
Sampling methodology	Samples were collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full.
QA/QC samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits). Equipment rinsate blanks were not collected as no reusable equipment was used during surface water sampling. Refer to **Appendix C** for assessment of QA/QC sample data.
Sample analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. ALS Brisbane, Queensland was used as the primary laboratory. NMI of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for groundwater analyses were certified by the NATA. COC forms and laboratory certificates are presented in **Appendix D** and **Appendix E** respectively.

3.3 Sediment Sampling Methodology

Table 6 Sediment Sampling Methodology

Item	Details
Sampling methodology	Samples representative of potentially deposited sediments were collected from within the water body if possible. Sediment samples were collected using a trenching shovel from the base of the drain (where possible). At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample.
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits). Equipment rinsate blanks were not collected as no reusable equipment was used during sediment sampling. Refer to **Appendix C** for assessment of QA/QC sample data.
Sample analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. ALS Brisbane, Queensland was used as the primary laboratory. The NMI of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for groundwater analyses were certified by the NATA. COC forms and laboratory certificates are presented in **Appendix D** and **Appendix E** respectively.

3.4 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS NEMP, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

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

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 7** below.

Table 7 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking water - groundwater	PFHxS and PFOS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). *All groundwater results will be compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use – surface water	PFHxS and PFOS	2 µg/L	The values are from NHMRC (2019). *All surface water results will be compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (99% species protection values)	PFOS	0.00023 µg/L	The values are from the PFAS NEMP (HEPA, 2020). The 99% level of protection has been applied for slightly to moderately disturbed ecosystems. This approach is generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. For the purposes of preliminary screening of analytical water results, the laboratory LOR will be adopted rather than sole use of the criteria value. *All surface water and groundwater results will be compared to these criteria.*
	PFOA	19 µg/L	

There are no human health or ecological guideline values available for sediment in Australia.

3.5 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2023).

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

Two QA/QC issues were identified in the analytical laboratory dataset. The quality assurance sample set for MW005 (Brymaroo) showed differences with the primary sample reporting first-time detections of PFHxS and PFOS, while PFAS were not detected in the duplicate and triplicate samples (QC112 and QC212). An investigation was conducted by ALS and the laboratory identified that it was possible that sample bottles for MW005 and MW269 were switched during the extraction process. As there was no volume remaining to re-extract and confirm the results, ALS were not able to amend the results and

confirm the error. Due to this uncertainty, results for both samples have been disregarded from the dataset. Monitoring well MW269 was resampled on 16 August 2023 and no issues were identified with this sample and it was suitable for data assessment purposes. MW005 (Brymaroo) was not resampled as duplicate and triplicate results were available.

Results for a second groundwater sample analysed at ALS (1435_MW008 [Brymaroo]) could not be reported due to a laboratory error.

Due to the first-time detection of PFAS in the sample from MW151, the bore was resampled on 16 August 2023. PFOS was detected in the second sample, verifying the first-time detection.

Other than the above issues impacting the three samples identified, the data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018, amended 2021) requirements.

3.6 Deviations from the SAQP

Table 8 lists the deviations from the SAQP (AECOM, 2023) during this sampling event.

Table 8 Deviations from the SAQP during Sampling Event for March to May 2023

SAQP	March to May 2023 Sampling Event	Impact on OMP program
Collection of groundwater samples at 96 locations	• A total of 88 out of the 96 groundwater samples specified in the SAQP were collected. • The groundwater samples from off-Site monitoring wells MW132, MW296 and MW297 were unable to be collected as the stakeholders did not provide access permission. • Monitoring wells MW013 at Brymaroo and MW242, MW255, MW264 and MW279 could not be located and are either destroyed or buried. MW242 was replaced with MW243. • Monitoring well MW289 was dry and a sample could not be collected.	• The non-sampling of MW132, MW255, MW279, MW296, MW297 reduces the spatial coverage of the groundwater monitoring network at locations to the southwest and south of the Site. • The non-sampling of MW264, located close to the Management Area boundary reduces the information on the potential migration of PFAS in groundwater beyond the southwestern boundary. • The non-sampling of MW013 at Brymaroo reduces the spatial coverage of the network and means there is no up-gradient sampling point. • As monitoring well MW289 was dry, there is no information on groundwater quality in the deeper aquifer at this location.
Collection of groundwater samples from monitoring wells using no-purge HydraSleeves™	• Groundwater samples were collected by bailer from MW001, MW005 and MW012 (Brymaroo) due to restricted access.	• The use of a bailer to collect a sample in replacement of a HydraSleeve™ is unlikely to impact the OMP program. The change in sampling technique will be considered during evaluation of PFAS

SAQP	March to May 2023 Sampling Event	Impact on OMP program
		concentrations at this location in the interpretive report.
Collection of water quality parameters	• Field quality parameters not collected for MW038 (YSI was not available) and MW242 (insufficient water volume to collect parameters).	• The non-collection of sampling measurements in these wells is of low significance as a large dataset is available for these wells and nearby wells.
Laboratory Analysis for PFAS	• Due to a laboratory error, groundwater results for MW008 (Brymaroo) could not be reported. When preparing the sample, the analyst did not remove the duplicate analysis from this sample (which is standard procedure when two or less containers are provided for a sample), which meant all of the available volume was used in the extraction. The internal standards were not added correctly to the sample during extraction so unfortunately none of the results for this sample were able to be used and no extra volume remained for re-extraction.	• The non-sampling of MW008 at Brymaroo reduces the spatial coverage of the network and means there is no cross-gradient sampling point to the west of the Infrastructure Area.
Laboratory Analysis for PFAS	• Anomalous results were reported for MW005 (Brymaroo). The primary laboratory investigated the results and identified that sample results for MW005 (Brymaroo) and MW269 were possibly switched in the laboratory. There was insufficient sample volume to reconfirm the sample results. • Comparison of historical results for both samples indicated that it was likely samples were switched.	• Results for both samples, MW005 and MW269, were not considered in the data assessment. • MW269 was resampled on 16 August 2023 and the results were consistent with historical results. • MW005 was not resampled as duplicate (QC112) and triplicate samples (QC212) • As the resampling results for MW269 are deemed acceptable for assessment purposes, there is no impact on the program.
Laboratory Analysis for PFAS	• Due to a first-time detection of PFAS in the sample from MW151, the bore was resampled on 16 August 2023.	• PFOS was detected in the sample collected from MW151 on 16 August 2023, which verified the first-time detection of PFAS in the sample collected on 17 April 2023.
Collection of sediment samples from 22 sampling locations.	• Two co-located surface water and sediment sampling locations were not sampled due to safety concerns regarding access to the sampling locations across uneven ground,	• The non-sampling at these locations is of lower significance as downstream data are available at all these locations.

SAQP	March to May 2023 Sampling Event	Impact on OMP program
	dense vegetation and private property fencing. • The surface water sample from SW065 (drainage channel 1 on-site) was not collected as the location was dry.	

4.0 Field Observations and Results

The sampling event was completed on 15 March 2023, between 11 and 20 April 2023 and on 10 May 2023. The results are summarised in following sections.

4.1 Groundwater

4.1.1 Groundwater Observations and Quality Parameter Field Measurements

Table 9 Groundwater Observations and Quality Parameter Field Measurements

Feature	Details
Access	All monitoring wells and bores were accessible except for the following: • The groundwater samples from monitoring wells MW296 and MW297 and residential bore MW132 were not collected as the stakeholder did not provide access permission. • MW289 was not sampled as it was dry. • MW242, MW255, MW264, MW279 and MW013 (Brymaroo) could not be found and are either buried or destroyed. MW242 was replaced with MW243.
Monitoring Well Network	All well covers were noted to be in good condition except for MW202, which was slightly damaged.
Field Observations	A hydrocarbon odour and light non aqueous phase liquid (LNAPL) were noted during gauging of MW193 which is located east of Hangar C2 and close to Tank C59. The hydrocarbon contamination is associated with a known historical leak of petroleum hydrocarbons from Tank C60 in 2009 (AECOM, 2018) and is consistent with historical observations at this location. An organic odour was noted during sampling of MW149 and MW179 and sulfuric odours were observed during sampling of MW189, MW271, MW280, MW291 and MW295. No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells. Field observations are presented **Table T1** in **Appendix B**.
Depth to LNAPL	LNAPL was present in MW193 with a thickness of 0.10 m recorded. Measurable LNAPL was not gauged in any of the monitoring wells during the sampling event. Groundwater gauging data are presented in **Table T1** in **Appendix B**.
Depth to Groundwater	Depth to groundwater in the Oakey Creek Alluvium aquifer at AACO ranged between 2.73 (MW229) and 21.037 mbtoc (MW189). Groundwater elevations in the Oakey Creek Alluvium aquifer ranged between 383.62 (MW189) and 402.80 mAHD (MW229). Depth to groundwater in the Walloon Coal Measures at AACO ranged between 7.782 mbtoc (MW295) and 35.398 mbtoc (MW293). Groundwater elevations in the Walloon Coal Measures aquifer ranged between 366.623 mAHD (MW293) and 395.055 mAHD (MW295). Depth to groundwater in the Main Range Volcanics at Brymaroo ranged between 8.631 (MW006) and 10.565 (MW012) mbtoc. Groundwater elevations ranged between 406.00 (MW008) and 414.215 mAHD (MW006). Groundwater gauging data is presented in **Table T1** in **Appendix B**.

Feature	Details
Groundwater Flow Direction	Inferred groundwater contours and groundwater flow directions in the Oakey Creek Alluvium aquifer at AACO in March-May 2023 are shown on **Figure 7** in **Appendix A**. The inferred local groundwater flow direction is generally from east to west across the Site and from southeast to northwest across the town. Inferred groundwater contours and groundwater flow directions in the Main Range Volcanics aquifer at Brymaroo in April 2023 are shown on **Figure 8** in **Appendix A**. The inferred local groundwater flow direction is generally flat with flow from southwest to northeast to the west of the Infrastructure Area.
Quality Parameter Field Measurements	Groundwater quality parameters were measured prior to collecting groundwater samples. The readings are presented in **Table T1** in **Appendix B** and are summarised below: AACO Management Area- Oakey Creek Alluvium • EC ranged from 398 µS/cm (MW232) to 6540 µS/cm (MW201) indicating fresh to brackish conditions. • pH ranged from 6.62 (MW205) to 7.59 (MW288). pH results indicated near neutral conditions. • ORP ranged from 215 mV (MW280) to 420 mV (MW207) indicating mildly to moderately reducing conditions. • Temperature ranged from 15.7°C (MW167) to 24.4°C (MW232). • The DO results ranged between 0.27 (MW202) and 4.37 mg/L (MW563) indicating poor to moderately oxygenated conditions. AACO Management Area- Walloon Coal Measures • EC ranged from 915 µS/cm (MW295) to 4247 µS/cm (MW273) indicating fresh to brackish conditions. • pH ranged from 7.54 (MW291) to 11.97 (MW293). pH results indicated near neutral to alkaline conditions. • ORP ranged from 139 mV (MW269) to 395 mV (MW273) indicating mildly to moderately reducing conditions. • Temperature ranged from 20.6°C (MW273) to 22.4°C (MW293). • The DO results ranged between 0.52 (MW291) and 1.91 mg/L (MW293) indicating poor to mildly oxygenated conditions. Brymaroo Satellite Site • EC ranged from 136 µS/cm (MW004) to 2457 µS/cm (MW008) indicating fresh to brackish conditions. • pH ranged from 6.69 (MW009) to 11.60 (MW001). pH results generally indicated near neutral to alkaline conditions. • ORP ranged from 245 mV (MW002) to 379.9 mV (MW011) indicating mildly to moderately reducing conditions. • Temperature ranged from 17.1°C (MW012) to 21.0°C (MW001). • DO results ranged between 0.37 (MW007) and 2.72 mg/L (MW012) indicating poorly to mildly oxygenated conditions.
Weather Conditions	Weather conditions during sampling on 15 March, between 11 and 20 April and on 10 May 2023 were dry and sunny. Weather conditions during sampling on 16 August 2023 were dry and sunny. No rainfall was recorded at the Bureau of Meteorology (BOM) station 041359 – 'Oakey Aero' on these dates.

Feature	Details
Estate Management Works or Training Activities	During the sampling event no notable estate works or training activities were observed in the vicinity of sampling locations.

4.1.2 Groundwater Analytical Results

The PFAS groundwater analytical results from this sampling event are presented in **Table T2** in **Appendix B**. There was one first-time detection of sum of PFHxS and PFOS in the groundwater samples from off-site residential bore MW151[2]. The detection in MW151 is the first-time PFAS have been detected in groundwater outside of the Management Area. The detection was verified during a resampling event completed in August 2023 with the sample reporting 0.02 µg/L sum of PFHxS and PFOS. **Table 10** presents the details of the first-time detection. The location of MW151 is shown on **Figure 9** in **Appendix A**.

Out of the 90 groundwater samples collected[3], 60 exceeded the NEMP (HEPA, 2020) human health drinking water guideline value for sum of PFHxS and PFOS with 16 samples exceeding the PFOA guideline value. 64 groundwater samples exceeded the limit of reporting for PFOS and therefore exceeded the NEMP (HEPA, 2020) ecological guideline for PFOS for 99% protection of freshwater ecosystems. One groundwater sample exceeded the NEMP (HEPA, 2020) PFOA ecological guideline value.

Table 10 Deviation from Historical Groundwater Dataset

Deviation Type	Monitoring wells/bores	Sum of PFHxS and PFOS concentration (µg/L)		PFOA concentration (µg/L)	
		Q2 2023	Historical maximum	Q2 2023	Historical maximum
First time detections of Sum of PFHxS and PFOS or PFOA in groundwater	MW151	0.03 (Apr 23) 0.02 (Aug 23)	<0.01	<0.01	<0.01

Note: Blue shading indicates a sampling detection with a first-time detection of PFHxS and PFOS or PFOA. Yellow shading indicates first-time exceedance of the human health guideline value.

4.2 Surface Water

4.2.1 Surface Water Observations and Quality Parameter Field Measurements

Table 11 Surface Water Observations and Quality Parameter Field Measurements

Compound	Criteria
Access	20 of the 22 surface water sampling locations were accessible during the March to May 2023 sampling event. Locations SW032 and SW059, both along Oakey Creek, could not be accessed due to safety concerns. One location, SW065 was dry so no sample could be collected.
Field Observations	Field observations were recorded for the 19 samples collected. No visual or olfactory indications of contamination were observed during the sampling of the surface water sampling locations. Field observations are presented in **Table T3** in **Appendix B**.

[2] The first-time detection of PFHxS and PFOS in the sample from 1435_MW008 has not been considered as the results was not validated by the duplicate and triplicate samples.
[3] The number of samples shown excludes quality assurance samples (i.e. duplicates and triplicates).

Compound	Criteria
Quality Parameter Field Measurements	Surface water quality parameters were measured prior to collecting surface water samples. The readings are presented in **Table T3** in **Appendix B** and are summarised below: • DO ranged from 0.20 mg/L (SW019) to 5.75 mg/L (SW004) indicating a range between poorly and well oxygenated conditions. • EC ranged from 82.7 µS/cm (SW021) to 1,790 µS/cm (SW019) indicating fresh to brackish conditions. • pH ranged from 6.74 (SW066) to 8.34 (SW013). pH results generally indicated near neutral conditions. • ORP ranged from 193 mV (SW027) to 303 mV (SW040) indicating mildly to moderately reducing conditions. • Temperature ranged from 20.2°C (SW040) and 34.9°C (SW019).
Weather Conditions	Weather conditions during sampling on 15 March, between 11 and 20 April and on 10 May 2023 were dry and sunny. No rainfall was recorded at the BOM station 041359 – 'Oakey Aero' on these dates.
Estate Management Works or Training Activities	During the sampling event no notable estate works or training activities were observed in the vicinity of sampling locations.

4.2.2 Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T4** in **Appendix B**. There were no first-time detections of sum of PFHxS and PFOS and PFOA above the limit of reporting or new exceedances of the NEMP (HEPA, 2020) human health or ecological guidelines.

There was one exceedance of the NEMP (HEPA, 2020) recreational water guideline value for sum of PFHxS and PFOS and no exceedances of the PFOA guideline value. The exceedance was in sample SW024 from drainage channel 2. Out of the 19 surface water samples collected, 14 reported PFOS concentrations above the LOR and all these samples exceeded the ecological guideline for protection of freshwater species (99% protection level). There were no exceedances of the ecological guideline for PFOA in the samples.

4.3 Sediment

4.3.1 Sediment Observations and Field Measurements

Table 12 Sediment Observations and Field Measurements

Compound	Criteria
Access	All sediment sampling locations were accessible except for SD032 and SD045 located along the Oakey Creek, which were not accessed due to safety concerns.
Field Observations	No visible or olfactory indications of contamination were observed during the sampling of the sediment locations. Field observations are presented in **Table T5** in **Appendix B**.
Weather Conditions	Weather conditions during sampling on 15 March, between 11 and 20 April and on 10 May 2023 were dry and sunny. No rainfall was recorded at the BOM station 041359 – 'Oakey Aero' on these dates.
Estate Management Works or Training Activities	During the sampling event no notable estate works or training activities were observed in the vicinity of sampling locations.

4.3.2 Sediment Analytical Results

The PFAS sediment analytical results from this sampling event are presented in **Table T6** in **Appendix B**. No deviations from the historical dataset are noted in the data collected in March to May 2023 with no first-time detections recorded above the LOR.

4.3.3 Groundwater Monitoring Well Cover Repairs

A drilling contractor (Proactive Drilling Services) was contracted to conduct repairs to the following monitoring well covers that were damaged: MW001, MW002 and MW003 (all Brymaroo) and MW276, MW278, MW288 and MW289. Photographs showing the repaired well covers are presented in **Appendix G**.

5.0 Summary and Next Sampling Event

5.1 Summary of Monitoring Event

A comprehensive groundwater, surface water and sediment monitoring event was completed within and outside of the AACO Management Area, including at Brymaroo, between 15 March and 10 May 2023. Resampling of two groundwater sampling locations (one monitoring well and one residential bore) took place on 16 August 2023. The program included sampling of groundwater from 80 monitoring wells, 16 off-Site residential bores, and 22 co-located surface water and sediment sampling locations.

Table 13 summarises the findings of the March to May 2023 sampling event and the recommended actions.

Table 13 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	88 out of the 96 monitoring well/bore locations were accessible and able to be sampled. Access to MW132, MW296, MW297 was not provided by the property owner. Five monitoring wells (MW242, MW255, MW264, MW279 and MW013 at Brymaroo) could not be sampled as they could not be found. MW242 was replaced with MW243. One well, MW289, was dry. 20 of the 22 surface water and sediment sampling locations were accessible and able to be sampled. Two sample locations along Oakey Creek, SW032/SD032 and SW059/SD045, were not able to be accessed for safety reasons. Surface water sample SW065 was not collected as the location was dry. The non-sampling of groundwater, surface water and sediment sampling locations has the potential to impact on the understanding of the distribution of PFAS in groundwater at AACO and Brymaroo.	The loss of the wells/bores will be considered in the 2023 Annual Interpretive Report. The locations where samples were not collected will be reinspected in October 2023.
Monitoring well network condition	No issues were identified in 73 out of the 74 monitoring wells sampled. Well repairs to seven well covers was completed on 11 April 2023. During the sampling event, the gatic cover for MW202 was noted to be slightly damaged.	The gatic cover for MW202 will be reinspected during the October 2023 sampling event.
Analytical Results	PFAS concentrations were consistent with historical results for 84 groundwater samples analysed. Due to a laboratory error, groundwater results for MW008 (Brymaroo) could not be reported. Two groundwater samples were possibly switched during sample analysis at the laboratory, MW005 and MW269. Results for both samples were not considered during the data assessment. MW269 was resampled on 16 August 2023 with results consistent with historical results. As duplicate and triplicate results for MW005 were available and	Ongoing monitoring in accordance with the OMP.

Item	Comment	Recommended Actions
	consistent with historical results, MW005 was not resampled. PFAS concentrations in the 19 surface water and 20 sediment sample were consistent with historical results.	
First-time detections of Sum of PFHxS and PFOS or PFOA	The groundwater sample from MW151 recorded a first-time detection of sum of PFHxS and PFOS (0.03 µg/L). This bore is outside of the Management Area. The detection was verified during a resampling event completed in August 2023 with the sample reporting 0.02 µg/L sum of PFHxS and PFOS. No first-time detections of PFAS above the laboratory limit of reporting were recorded in any of the 19 surface water samples or 20 sediment samples collected.	Ongoing monitoring in accordance with the OMP.
New exceedance of HEPA (2020) drinking water guideline values or NHMRC (2019) recreational use guidelines	No new exceedances were identified in the dataset.	Ongoing monitoring in accordance with the OMP.

5.2 Upcoming Sampling Events

The next sampling event is scheduled for October 2023.

5.3 Upcoming Annual Interpretive Report

The next annual interpretive report is scheduled for March 2024.

6.0 References

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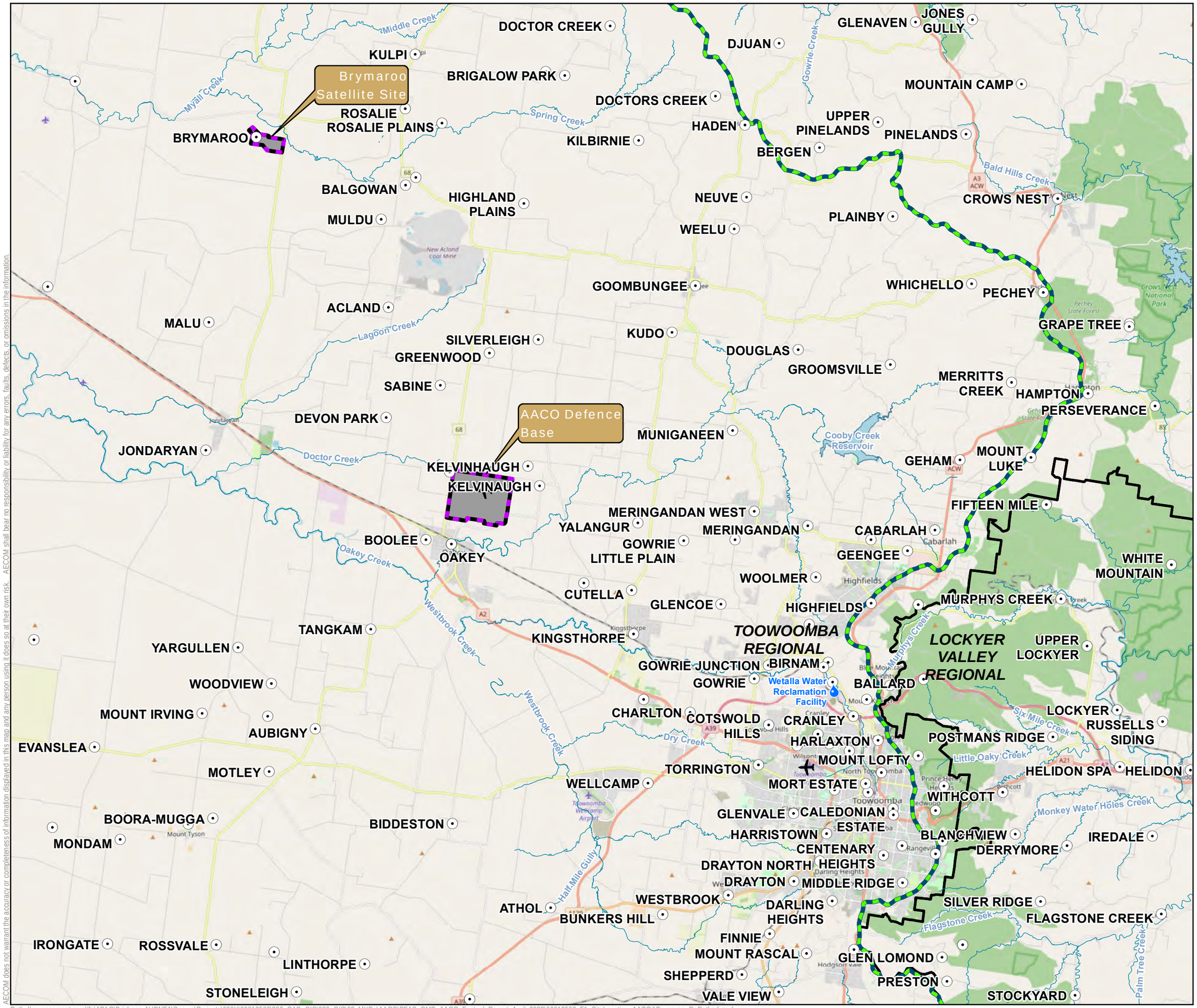
Appendix A

Figures

Appendix A Figures


Brymaroo Satellite Site
AACO Defence Base
DOCTOR CREEK
KULPI
BRIGALOW PARK
ROSALIE
ROSALIE PLAINS
BRYMAROO
DJUAN
GLENAVEN
JONES GULLY
MOUNTAIN CAMP
DOCTORS CREEK
HADEN
UPPER PINELANDS
PINELANDS
KILBIRNIE
BERGEN
BALGOWAN
HIGHLAND PLAINS
MULDU
NEUVE
CROWS NEST
PLAINBY
WEELU
GOOMBUNGEE
WHICHELLO
PECHEY
ACLAND
MALU
GRAPE TREE
KUDO
SILVERLEIGH
GREENWOOD
DOUGLAS
GROOMSVILLE
MERRITTS CREEK
HAMPTON
SABINE
PERSEVERANCE
DEVON PARK
MUNIGANEEN
JONDARYAN
GEHAM
MOUNT LUKE
KELVINHAUGH
KELVINAUGH
FIFTEEN MILE
MERINGANDAN WEST
YALANGUR
MERINGANDAN
CABARLAH
BOOLEE
OAKEY
GOWRIE LITTLE PLAIN
GEENGEE
WHITE MOUNTAIN
WOOLMER
CUTELLA
GLENCOE
HIGHFIELDS
MURPHYS CREEK
TOOWOOMBA REGIONAL
LOCKYER VALLEY REGIONAL
UPPER LOCKYER
TANGKAM
KINGSTHORPE
YARGULLEN
GOWRIE JUNCTION
BIRNAM
GOWRIE
Wetalla Water Reclamation Facility
BALLARD
WOODVIEW
CHARLTON
COTSWOLD HILLS
CRANLEY
LOCKYER
RUSSELLS SIDING
MOUNT IRVING
AUBIGNY
HARLAXTON
POSTMANS RIDGE
EVANSLEA
MOUNT LOFTY
MOTLEY
TORRINGTON
HELIDON SPA
HELIDON
WELLCAMP
MORT ESTATE
WITHCOTT
BOORA-MUGGA
GLENVALE
CALEDONIAN ESTATE
BIDDESTON
HARRISTOWN
BLANCHVIEW
IREDALE
MONDAM
CENTENARY HEIGHTS
DERRYMORE
DRAYTON NORTH
DRAYTON
MIDDLE RIDGE
WESTBROOK
DARLING HEIGHTS
SILVER RIDGE
ATHOL
BUNKERS HILL
FLAGSTONE CREEK
FINNIE
IRONGATE
ROSSVALE
MOUNT RASCAL
GLEN LOMOND
LINTHORPE
SHEPPERD
PRESTON
STONELEIGH
VALE VIEW
STOCKYARD
Middle Creek
Myall Creek
Spring Creek
Gowrie Creek
Bald Hills Creek
Lagoon Creek
Doctor Creek
Oakey Creek
Westbrook Creek
Dry Creek
Six Mile Creek
Little Oaky Creek
Monkey Water Holes Creek
Half Mile Gully
Murphys Creek
Flagstone Creek
Palm Tree Creek
Cooby Creek Reservoir
New Acland Coal Mine
Crows Nest National Park
Pechey State Forest
Toowoomba Wellcamp Airport
Mount Tyson
Jondaryan
Highfields
Cabarlah
Kingsthorpe
Hodgson Vale
Darling Heights
Rangeville
Prince Henry Heights
Wilsonton
North Toowoomba
Cranley
Mount Lofty
Harlaxton
Toowoomba
Redwood
Glenvale
Rangeville
Darling Heights
Hodgson Vale
A3 ACW
A2
A39
A21
68
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DATUM GDA 1994. PROJECTION MGA ZONE 56
0 2.5 5
Kilometres
1:200,000 (when printed at A3)
LEGEND
Airport
Watercourse/waterbody
Great Dividing Range
Investigation Area
Local Governmental Area
AACO & Brymaroo Base Boundaries
National Park
OVERVIEW
Brymaroo Satellite Site
DALBY
AACO
OAKEY
TOOWOOMBA
BRISBANE
Data sources:
Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
PFAS OMP AACO SAMPLING EVENT
FACTUAL REPORT: MARCH-MAY 2023
LOCATION OF AACO AND BRYMAROO SATELLITE SITE
PROJECT ID 60612563
CREATED BY WW
LAST MODIFIED [redacted] 24/05/2023
VERSION: 1
FIGURE 1
A3 size
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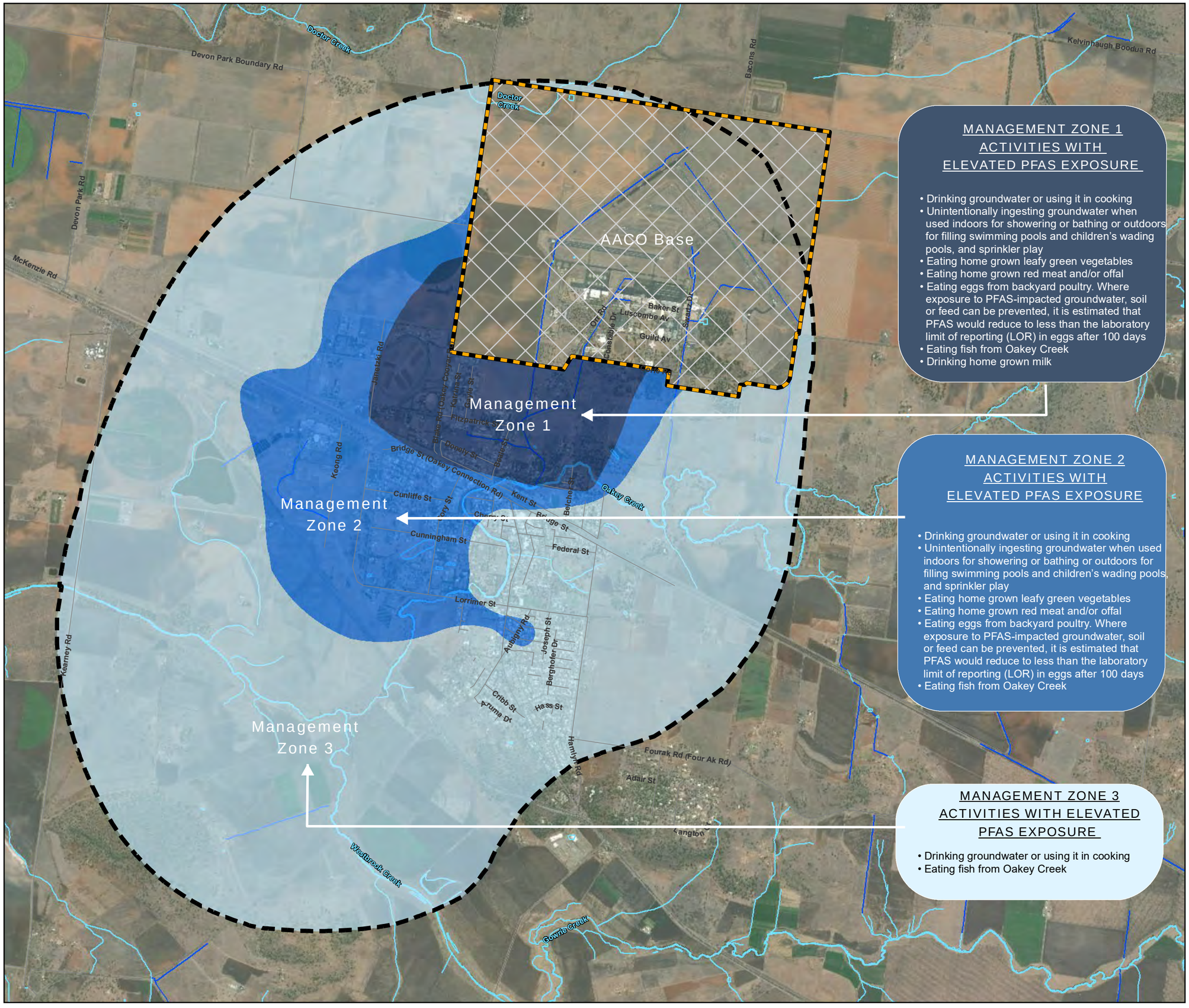
Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_Factual_Report_April_2023\60612563_F1_SiteLocation_AACO&Brymaroo_RePathed.mxd



MANAGEMENT ZONE 1 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Unintentionally ingesting groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools, and sprinkler play
- Eating home grown leafy green vegetables
- Eating home grown red meat and/or offal
- Eating eggs from backyard poultry. Where exposure to PFAS-impacted groundwater, soil or feed can be prevented, it is estimated that PFAS would reduce to less than the laboratory limit of reporting (LOR) in eggs after 100 days
- Eating fish from Oakey Creek
- Drinking home grown milk

MANAGEMENT ZONE 2 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Unintentionally ingesting groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools, and sprinkler play
- Eating home grown leafy green vegetables
- Eating home grown red meat and/or offal
- Eating eggs from backyard poultry. Where exposure to PFAS-impacted groundwater, soil or feed can be prevented, it is estimated that PFAS would reduce to less than the laboratory limit of reporting (LOR) in eggs after 100 days
- Eating fish from Oakey Creek

MANAGEMENT ZONE 3 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Eating fish from Oakey Creek

LEGEND

- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- AACO Base

km
0 0.25 0.5 1

SCALE 1:35,000
SIZE A3
SHEET 1 of 1
COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE
Figure 2: Management Zones - Activities with Elevated PFAS Exposure

PROJECT
Sampling Event Factual Report, March-May 2023
PFAS OMP-AACO

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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 100 200 400 m

1:9,100 (when printed at A3)

LEGEND

- Site Boundary
- Groundwater Monitoring Locations - destroyed
- Groundwater Monitoring Locations

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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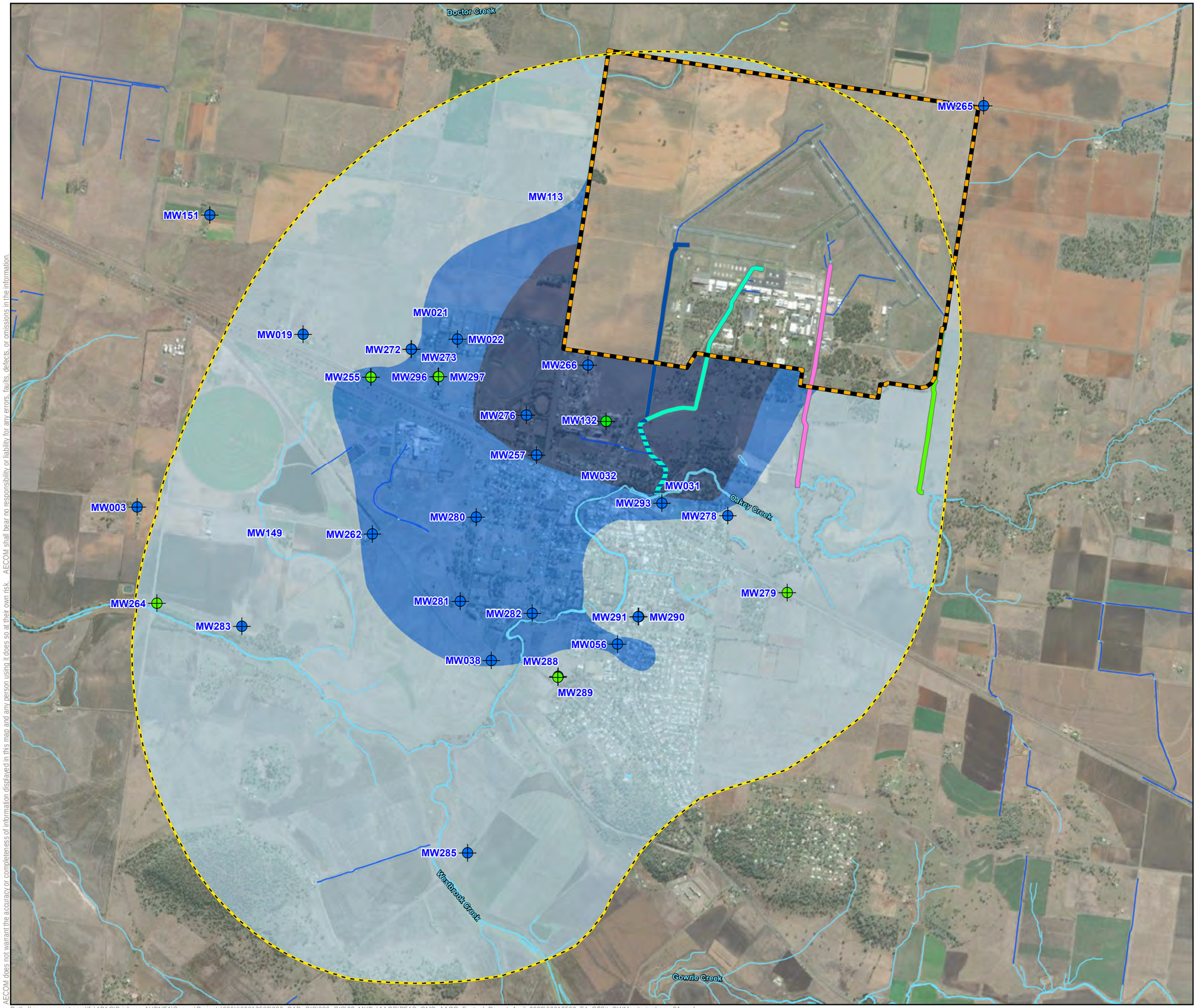
Sampling Event Factual Report March-May 2023, PFAS OMP - AACO

ON-SITE GROUNDWATER MONITORING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	22/07/2024
VERSION:	1

FIGURE 03

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_Factual_Report_April_2023\60612563_F3_OnSiteGWMonitoringLoc_v01.mxd



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

- Groundwater Monitoring Well- sampled
- Groundwater Monitoring Well - no sampled
- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Management Area
- Site Boundary

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Sampling Event Factual Report, March-May 2023, PFAS OMP - AACO

OFF-SITE GROUNDWATER MONITORING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	[redacted] 24/05/2023
VERSION:	2

FIGURE 4

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_Factual_Report_April_2023\60612563_F4_OffSiteGWMonitoringLoc_v01.mxd

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DATUM GDA 1994. PROJECTION MGA ZONE 56

N

0 10 20 40 60 Meters

1:1,800 (when printed at A3)

- Brymaroo Satellite Site
- Monitoring Wells- sampled
- Monitoring Wells- not sampled

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Sampling Event Factual Report, March-May 2023
PFAS OMP - AACO

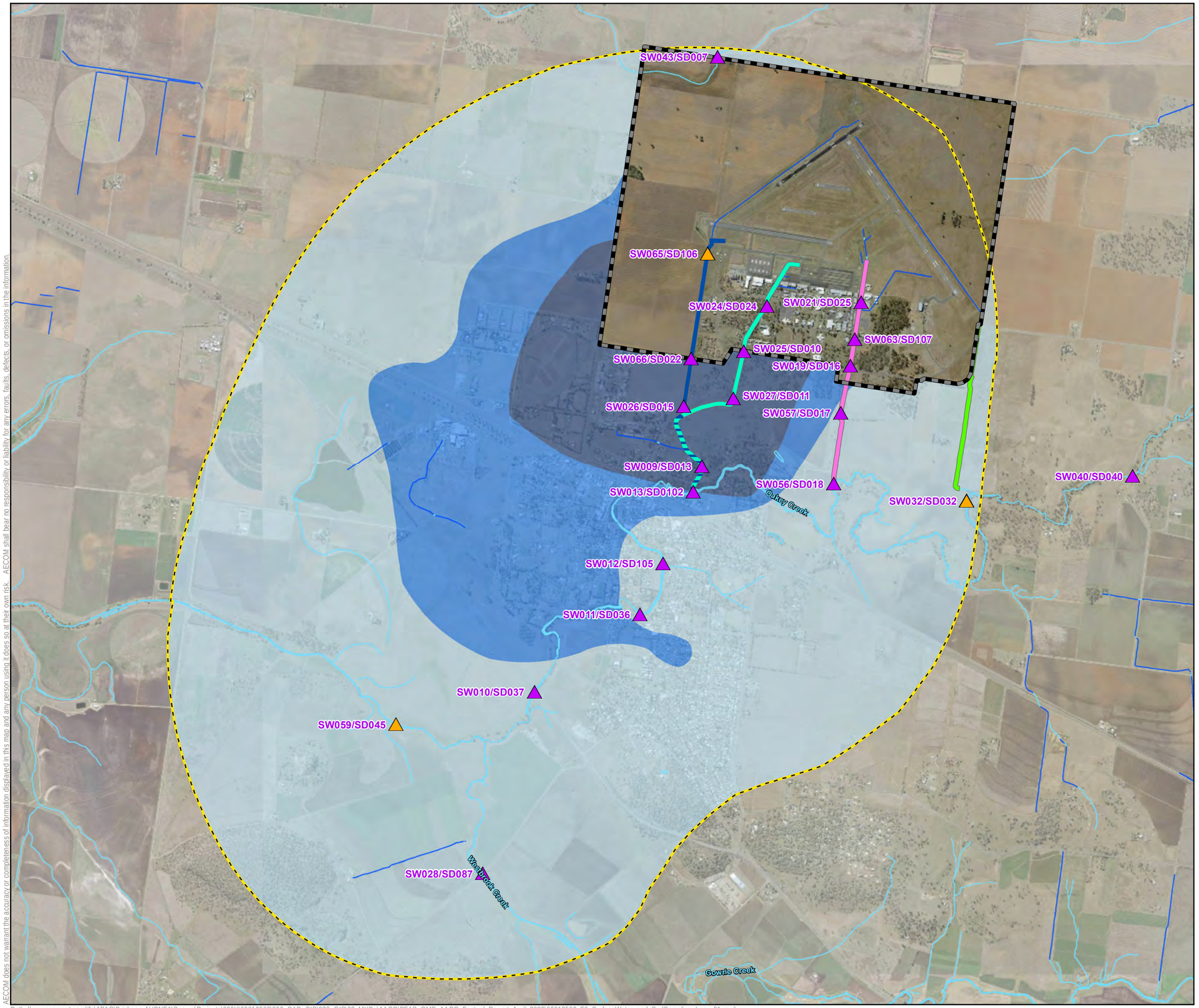
BRYMAROO GROUNDWATER MONITORING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	24/05/2023
VERSION:	1

FIGURE 5

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_Factual_Report_April_2023\60612563_F5_Brymaroo GW locations_OakeyApr2022_v01.mxd

A3 size



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DATUM GDA 1994. PROJECTION MGA ZONE 56

0 0.25 0.5 1 km

1:32,000 (when printed at A3)

- Surface Water and Sediment Locations- sampled
- Surface Water and Sediment Locations- not sampled

- Management Area
- Site Boundary
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Drainage channel
- Watercourse/water body

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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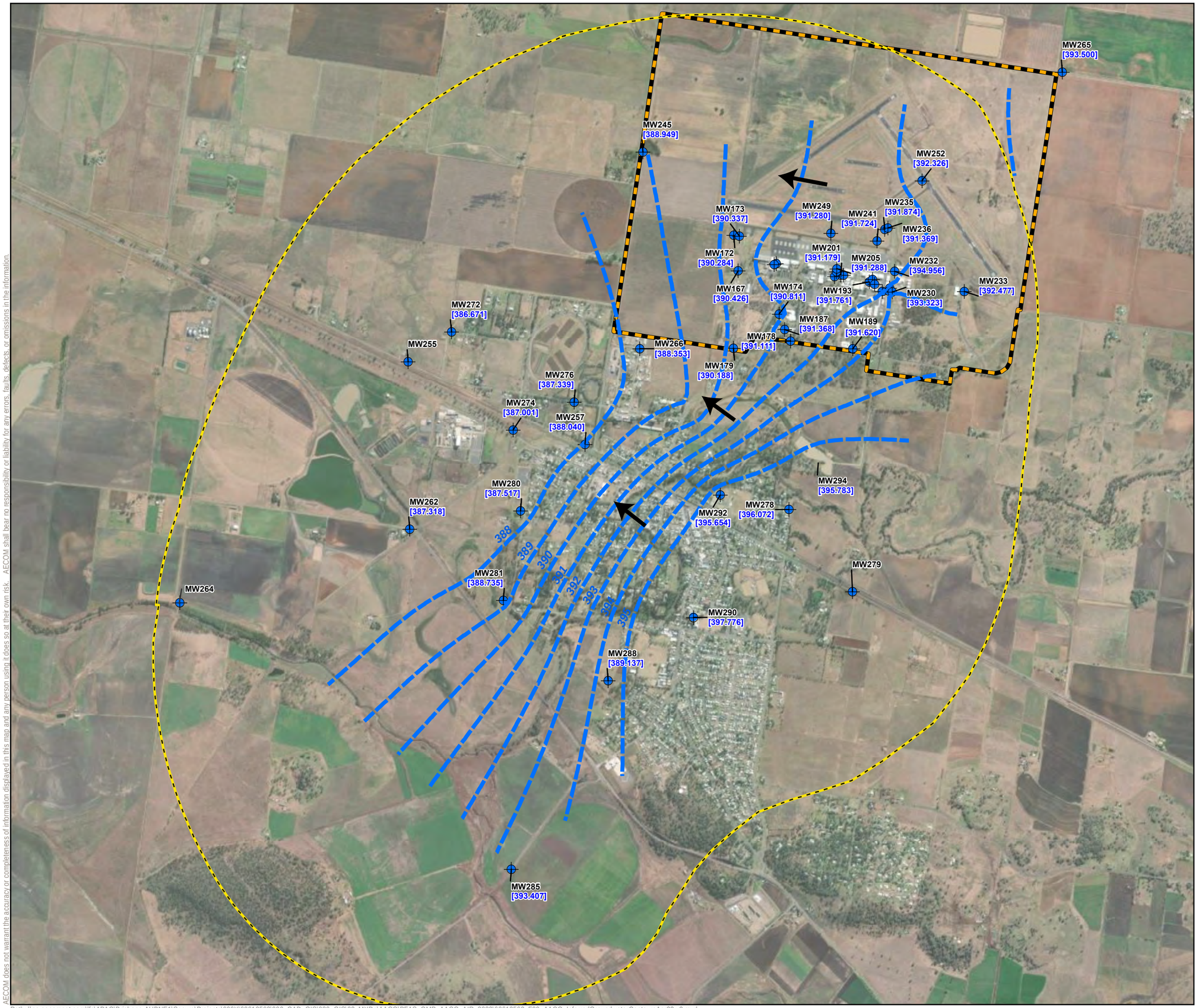
Sampling Event Factual Report, March-May 2023
PFAS OMP - AACO

SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	
VERSION:	1

FIGURE 6

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_Factual_Report_April_2023\60612563_F6_SurfaceWater_and_SedSampling_Loc_v01.mxd



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DATUM GDA 1994. PROJECTION MGA ZONE 56

Meters
0 150 300 600 900

1:30,000 (when printed at A3)

Groundwater Elevation Contour (mAHD)

- Groundwater Elevation Contour (mAHD)
- Management Area
- Site Boundary
- Groundwater Monitoring Wells (mAHD)
- Groundwater Flow Direction

Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
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Sampling Event Factual Report, March-May 2023
PFAS OMP - AACO

INFERRED GROUNDWATER CONTOURS
OAKEY CREEK ALLUVIUM: APRIL 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	1/05/2024
VERSION:	1

FIGURE 07

A3 size

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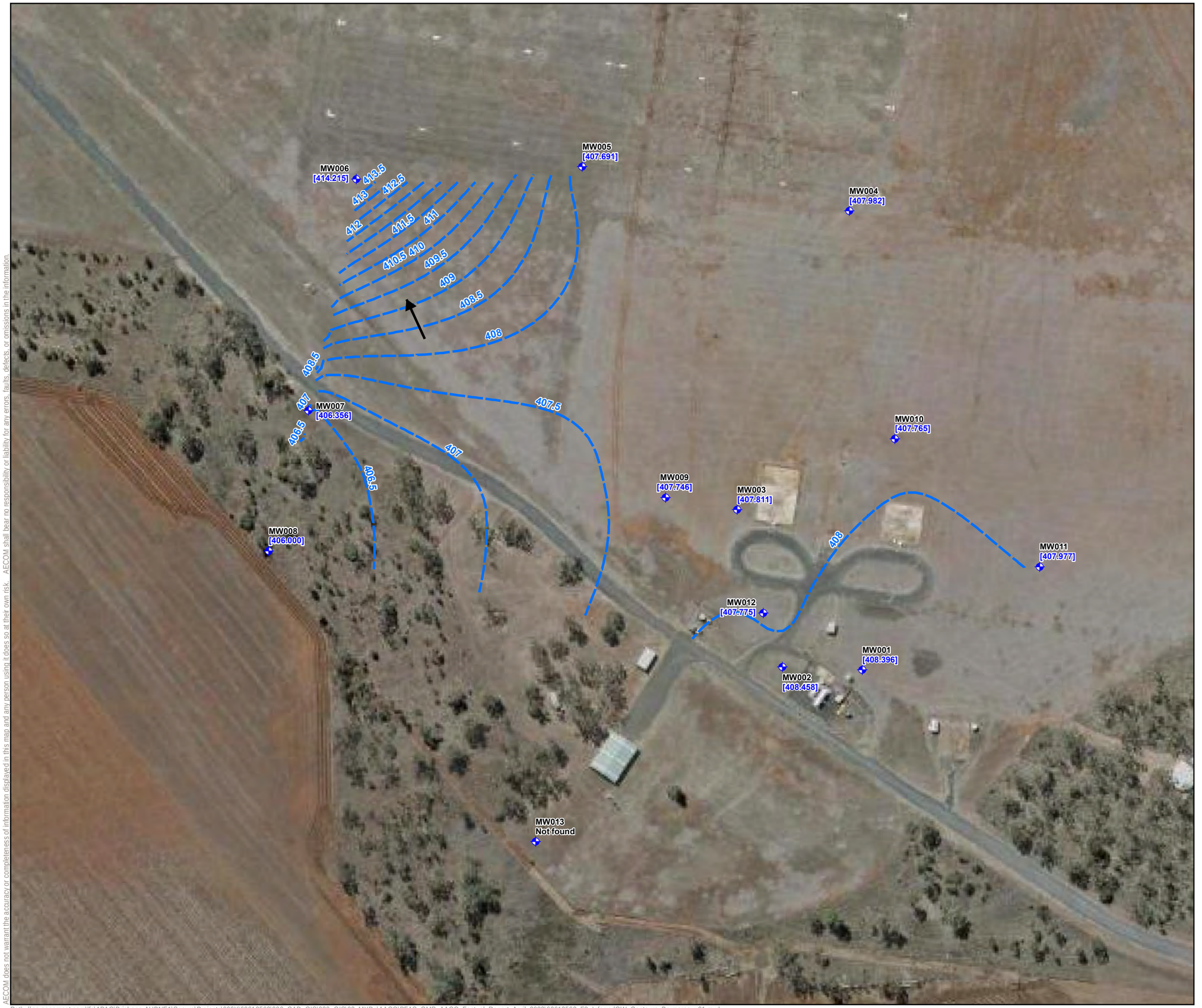

LEGEND

- Brymaroo Satellite Site
- Groundwater Monitoring Well (mAHD)
- Groundwater Elevation Contour (mAHD)
- Groundwater Flow Direction

N

0 10 20 40 m

AECOM

SCALE 1:2,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 8: Inferred Groundwater Contours in the Main Range Volcanics at Brymaroo: April 2023

PROJECT

PFAS OMP AACO SAMPLING EVENT
FACTUAL REPORT: MARCH-MAY 2023

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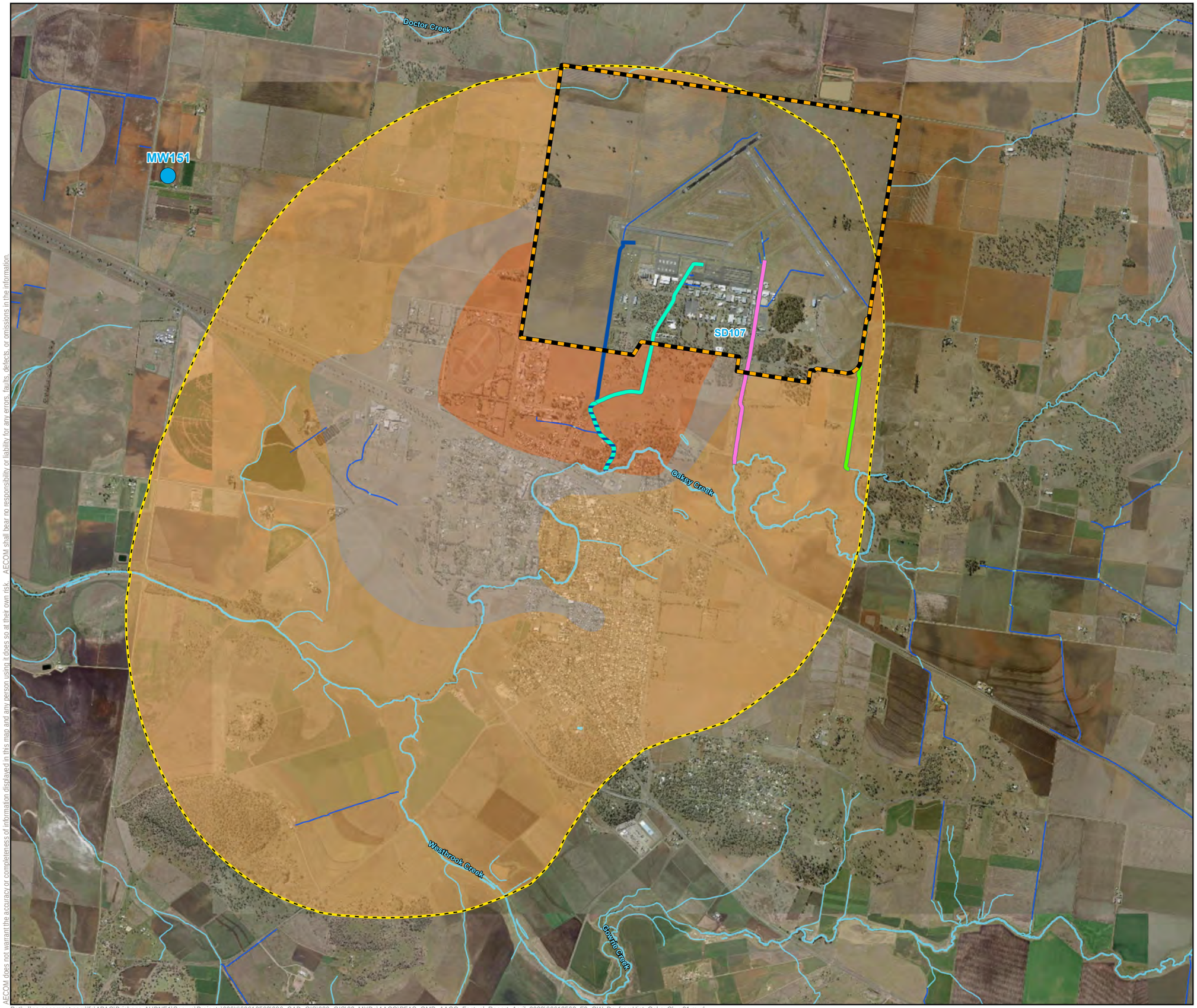

Legend

Groundwater Results

- First time detection
- First time exceedance
- Site Boundary
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3

First time detection of PFHxS+PFOS or PFOA

First time exceedances of human health screening criteria for PFHxS+PFOS or PFOA

N

0 0.5 1 km

AECOM

SCALE 1:35,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 9: Groundwater Results: Deviations from Historical Data - AACO

PROJECT

Sampling Event Factual Report, March-May 2023
PFAS OMP - AACO

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Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\AACO\PFAS_OMP_AACO_Factual_Report_April_2023\60612563_F9_GW_DevfromHist_OakeyCk_v01.mxd

Appendix B

Tables

Appendix B Tables

Table T1 Groundwater Gauging and Quality Parameter Field Measurement Results

Property ID	Well ID	Date Hydrasleeve Installed	Date Hydrasleeve Sampled	Gauging Date	Well Depth (mbtoc)	Depth to LNAPL (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_r (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
1435	MW001	-	-	11/04/2023	21.253	-	10.138	418.534	408.396	408.396	Good	1.93	1309	11.6	132.1	337.1	21		Clear	No odour	No sheen	Bailer
1435	MW002	19/04/2022	11/04/2023	11/04/2023	20.524	-	9.761	418.219	408.458	408.458	Good	0.71	1989	7.88	40	245	19.8	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW003	19/04/2022	11/04/2023	11/04/2023	20.36	-	10.243	418.054	407.811	407.811	Good	0.66	1429	7.05	154.3	359.3	20.5	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW004	19/04/2022	11/04/2023	11/04/2023	24.75	-	9.396	417.378	407.982	407.982	Good	0.69	135.7	7.18	163.4	368.4	19.6	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW005	-	-	11/04/2023	26.576	-	10.159	417.850	407.691	407.691	Good	1.8	1142	7.65	125.1	330.1	19.1	Medium	Clear	No odour	No sheen	Bailer
1435	MW006	20/04/2022	11/04/2023	11/04/2023	27.16		8.631	416.459	407.828	414.215	Good	1.5	1224	7.6	154	359	20.9	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW007	19/04/2022	11/04/2023	11/04/2023	24.93	-	10.057	416.413	406.356	406.356	Good	0.37	910	7.39	155.3	360.3	20.4	Low	Clear	No odour	No sheen	HydraSleeve™
1435	MW008	19/04/2022	11/04/2023	11/04/2023	22.068	-	9.192	415.192	406.000	406.000	Good	0.53	2457	6.98	168.8	373.8	20.4	Medium	Cloudy	No odour	No sheen	HydraSleeve™
1435	MW009	19/04/2022	11/04/2023	11/04/2023	25.91	-	10.243	417.989	407.746	407.746	Good	1.03	1872	6.69	156.2	361.2	20.9	Low	Clear	No odour	No sheen	HydraSleeve™
1435	MW010	19/04/2022	11/04/2023	11/04/2023	26.792	-	10.059	418.024	407.965	407.965	Good	0.76	1377	7.66	164.8	369.8	20.7	Low	Clear	No odour	No sheen	HydraSleeve™
1435	MW011	19/04/2022	11/04/2023	11/04/2023	27.3	-	10.312	418.289	407.977	407.977	Good	0.61	1187	7.45	174.9	379.9	20.9	Medium	Clear	No odour	No sheen	HydraSleeve™
1435	MW012	-	-	11/04/2023	26.736	-	10.565	418.340	407.775	407.775	Good	2.72	1554	6.98	137.2	342.2	17.1	Low	Clear/brownish	No odour	No sheen	Bailer
1435	MW013	19/04/2022	-	-	Not found																	Not found
0207	MW003	None-tap	None-tap	18/04/2023	-	-	Not gauged - pumping equipment installed.				-	1.86	2197	7.31	139.6	344.6	28.3	Medium	Clear	No odour	No sheen	Tap sample
0207	MW019	None-tap	None-tap	17/04/2023	-	-	Not gauged - pumping equipment installed.				-	1.76	2290	7.21	100.8	305.8	28.8	Medium	Brown	No odour	No sheen	Tap sample
0207	MW021	None-tap	None-tap	17/04/2023	-	-	Not gauged - pumping equipment installed.				-	2.93	1583	7.27	90.5	295.5	22.3	Medium	Clear	No odour	No sheen	Tap sample
0207	MW032	None-tap	None-tap	17/04/2023	-	-	Not gauged - pumping equipment installed.				-	0.5	894	7.34	182	387	30.2	Medium	Clear	No odour	No sheen	Tap sample
0207	MW038	None-tap	None-tap	13/04/2023	-	-	Not gauged - pumping equipment installed.				-	-	-	-	-	-	-	Medium	Clear	No odour	No sheen	Tap sample
0207	MW056	27/10/2022	17/04/2023	17/04/2023	21.295		8.042	-	-	-	-	3.17	2038	6.98	51.7	256.7	21.2	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW113	None-tap	None-tap	20/04/2023	-	-	Not gauged - pumping equipment installed.				-	1.44	1539	7.07	67.7	272.7	22.2	Medium	Clear	No odour	No sheen	Tap sample
0207	MW114	None-tap	None-tap	20/04/2023	-	-	Not gauged - pumping equipment installed.				-	4.22	1540	7	94.2	299.2	22.2	Medium	Clear	No odour	No sheen	Tap sample
0207	MW118	None-tap	None-tap	20/04/2023	-	-	Not gauged - pumping equipment installed.				-	3.55	1595	7.17	91.1	296.1	22	Medium	Clear	No odour	No sheen	Tap sample
0207	MW122	None-tap	None-tap	20/04/2023	-	-	Not gauged - pumping equipment installed.				-	45.7	1638	7.17	88.1	293.1	21.8	Medium	Clear/brownish	No odour	No sheen	Tap sample
0207	MW132	None-tap	None-tap	Perrmission not granted																		Not sampled as no access permission
0207	MW134	None-tap	None-tap	19/04/2023	-	-	Not gauged - pumping equipment installed.				-	1.85	2113	7.1	92.1	297.1	20.6	Medium	Brown	No odour	No sheen	Tap sample
0207	MW147	None-tap	None-tap	17/04/2023	-	-	Not gauged - pumping equipment installed.				-	1.25	3633	7.13	89.8	294.8	25.2	Medium	Brown	No odour	No sheen	Tap sample
0207	MW149	None-tap	None-tap	20/04/2023	-	-	Not gauged - pumping equipment installed.				-	3.17	1930	7.36	63.3	268.3	21.8	Medium	Clear	Organic odour	No sheen	Tap sample
0207	MW151	None-tap	None-tap	17/04/2023	-	-	Not gauged - pumping equipment installed.				-	2.74	1909	7.06	182.4	387.4	22.8	Medium	Clear	No odour	No sheen	Tap sample
0207	MW151	None-tap	None-tap	16/08/2023	-	-	Not gauged - pumping equipment installed.				-	4.94	2018	-	888.5	1093.5	22	Low	Clear	No odour	No sheen	Tap sample. pH meter malfunctioned
0207	MW157	None-tap	None-tap	20/04/2023	-	-	Not gauged - pumping equipment installed.				-	3.62	1915	7.21	89.1	294.1	22	Medium	Clear	No odour	No sheen	Tap sample
0207	MW167	27/10/2022	12/04/2023	12/04/2023	15.164	-	12.002	402.428	390.426	390.426	Good	2.96	1808	7.17	77.3	282.3	15.7	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW172	26/10/2022	12/04/2023	12/04/2023	17.145	-	12.534	402.818	390.284	390.284	Good	3.69	1359	7.36	90.2	295.2	17.4	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW173	24/10/2022	12/04/2023	12/04/2023	17.834	-	12.925	403.262	390.337	390.337	Good	3.77	1823	7.32	91.6	296.6	16.3	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW174	2/11/2022	13/04/2023	13/04/2023	30.191	-	13.261	404.072	390.811	390.811	Good	1.01	3215	7.15	133.9	338.9	19.8	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW178	2/11/2022	13/04/2023	13/04/2023	18.426	-	12.402	403.513	391.111	391.111	Good	0.57	3912	6.96	116.1	321.1	18.6	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW179	3/11/2022	13/04/2023	13/04/2023	20.906	-	12.818	403.006	390.188	390.188	Good	0.41	3974	7	143.9	348.9	19.2	Medium	Clear	Weak organic odour	No sheen	HydraSleeve™
0207	MW187	27/10/2022	13/04/2023	13/04/2023	18.335	-	13.208	404.576	391.368	391.368	Good	0.82	3857	6.94	142.7	347.7	18.9	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW189	27/10/2022	13/04/2023	13/04/2023	21.07	-	13.032	404.652	391.620	391.620	Good	0.37	4825	6.75	109.2	314.2	17.3	Low	Clear	Weak sulfuric odour	No sheen	HydraSleeve™
0207	MW193	26/10/2022	12/04/2023	12/04/2023	19.74	13.843	13.943	405.630	391.687	391.761	Good	0.45	4062	6.95	55.1	260.1	22.1	Medium	Clear	Weak hydrocarbon odour	LNAPL present	HydraSleeve™
0207	MW198	25/10/2022	12/04/2023	12/04/2023	13.475	-	6.732	405.505	398.773	398.773	Good	3.28	634	7.17	201.2	406.2	21	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW201	25/10/2022	12/04/2023	12/04/2023	19.852	-	13.621	404.800	391.179	391.179	Good	1.02	6540	6.78	210.5	415.5	22.2	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW202	24/10/2022	12/04/2023	12/04/2023	19.114	-	13.646	405.000	391.354	391.354	Damaged	0.27	2379	6.97	214.5	419.5	22.3	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW203	24/10/0222	12/04/2023	12/04/2023	20.058	-	13.646	405.100	391.454	391.454	Good	2.42	2638	6.9	205.3	410.3	21.8	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW204	24/10/2022	12/04/2023	12/04/2023	19.988	-	13.942	405.200	391.258	391.258	Good	2.4	4874	6.84	193	398	22.2	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW205	24/10/2022	12/04/2023	12/04/2023	20.051	-	14.412	405.700	391.288	391.288	Good	2.74	4712	6.62	201.9	406.9	21.9	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW207	25/10/2022	12/04/2023	12/04/2023	20.432	-	13.874	405.416	391.542	391.542	Good	0.48	3891	7.14	214.7	419.7	23.2	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW221	25/10/2022	12/04/2023	12/04/2023	19.234	-	13.839	405.496	391.657	391.657	Good	0.67	1856	7.24	142.3	347.3	22.6	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW222	26/10/2022	12/04/2023	12/04/2023	18.568	-	13.971	405.716	391.745	391.745	Good	1.73	2209	7.3	194.9	399.9	22.9	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW223	26/10/2022	12/04/2023	12/04/2023	20.102	-	12.562	405.845	393.283	393.283	Good	2.81	2435	7.07	184.1	389.1	21.7	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW229	27/10/2022	13/04/2023	13/04/2023	15.646	-	2.731	405.533	402.802	402.802	Good	0.51	1814	7.57	137.2	342.2	19.8	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW230	26/10/2022	12/04/2023	12/04/2023	18.85	-	12.093	405.416	393.323	393.323	Good	3.25	1278	7.22	212.1	417.1	22.9	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW232	27/10/2022	12/04/2023	12/04/2023	13.032	-	10.942	405.898	394.956	394.956	Good	2.19	398.4	7.31	190.8	395.8	24.4	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW233	24/11/2022	13/04/2023	13/04/2023	17.802	-	13.993	406.470	392.477	392.477	Good	1.52	745	7.27	107.3	312.3	20.2	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW235	26/10/2022	11/04/2023	11/04/2023	23.562	-	14.434	406.308	391.874	391.874	Good	2.06	1740	6.99	53.6	258.6	23	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW236	26/10/2022	11/04/2023	11/04/2023	16.78	-	14.284	405.653	391.369	391.369	Good	1.47	1139	6.75	56	261	21.1	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW241	26/10/2022	11/04/2023	11/04/2023	18.102	-	14.159	405.883	391.724	391.724	Good	3.7	733	7.16	48.7	253.7	20.6	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW243	27/10/2022	14/04/2023	14/04/2023	6.831	-	6.732	-	-	-	Good	-	-	-	-	-	-	-	-	-	-	HydraSleeve™. Insufficient volume for parameter measurements. Well sampled in replacement to MW242.
0207	MW245	3/11/2022	13/04/2023	13/04/2023	21.929	-	14.032	402.981	388.949	388.949	Good	1.96	1582	6.98	128.7	333.7	24	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW249	26/10/2022	11/04/2023	16/04/2023	18.732	-	13.489	404.769	391.280	391.280	Good	3.53	1487	7.27	53.8	258.8	20.9	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW252	26/10/2022	11/04/2023	11/04/2023	16.675	-	13.836	406.162	392.326	392.326	Good	0.91	468.5	6.76	43.3	248.3	21.5	High	Brown	No odour	No sheen	HydraSleeve™
0207	MW255	Not sampled	-	-	Not found																	Not found
0207	MW257	26/10/2022	14/04/2023	14/04/2023	24.094	-	12.793	400.833	388.040	388.040	Good	0.4	2246	7.13	21.5	226.5	21.5	Medium	Clear/Yellowish	No odour	No sheen	HydraSleeve™
0207	MW262	2/11/2022	14/04/2023	14/04/2023	17.76	-	11.011	398.329	387.318	387.318	Good	2.21	1919	7.14	55.8	260.8	19.2	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW264	14/04/2022	-	-	Not found																	Not found
0207	MW265	16/04/2022	14/04/2023	14/04/2023	19.12	-	14.898	408.398	393.500	393.500	Good	0.6	1330	7.02	90.9	295.9	22.6	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW266	16/04/2022	13/04/2023	13/04/2023	21.281	-	12.963	401.316	388.353	388.353	Good	0.66	4706	7.04	210.3	415.3	24.1	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW267	13/04/2022	18/04/2023	18/04/2023	47.159	-	12.269	401.392	389.123	389.123	Good	0.49	622	7.82	16	221	23.5	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW268	13/04/2022	18/04/2023	18/04/2023	20.032	-	11.801	401.323	389.522	389.522	Good	0.5	3605	7.05	98.6	303.6	20.1	Low	Clear/Cloudy	No odour	No sheen	HydraSleeve™
0207	MW269	2/11/2022	18/04/2023	18/04/2023	80.350	-	33.539	401.958	368.419	368.419	Good	0.87	2573	11.97	38	243	21.5	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW269	18/04/2023	16/08/2023	16/08/2023	80.310	-	33.4	401.958	368.419	368.419	Good	2.65	1655	10.95	-65.4	139.6	22.3	Low	Clear	No odour	No sheen	HydraSleeve™
0207	MW270	13/04/2022	10/05/2023	10/05/2023	19.700	-	13.05	404.078	391.028	391.028	Good	3.00	4656	6.84	152.8	357.8	22.2	Medium	Brown	No odour	No sheen	HydraSleeve™
0207	MW271	13/04/2022	10/05/2023	10/05/2023	49.900	-	37.4	403.855	366.455	366.455	Good	1.00	958	9.95	-182	23	22	Medium	Clear	Sulfuric odour	No sheen	HydraSleeve™
0207	MW272	27/10/2022	13/04/2023	13/04/2023	20.955	-	11.301	397.972	386.671	386.671	Good	2.22	2602	7.22	212.9	417.9	21.3	Medium	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW273	16/04/2022	13/04/2023	13/04/2023	66.923	-	17.992	398.044	380.052	380.052	Good	0.61	4247	9.63	189.8	394.8	20.6	High	Clear/Yellowish	No odour	No sheen	HydraSleeve™
0207	MW274	15/04/2022	14/03/2023	14/03/2023	32.347	-	12.946	399.947	387.001	387.001	Good	0.63	1290	7.54	31.2	236.2	19.2	High	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW275	15/04/2022	14/04/2023	14/04/2023	55.581	-	12.892	399.911	387.019	387.019	Good	0.39	840	7.94	120.2	325.2	18.1	High	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW276	14/11/2022	13/04/2023	13/04/2023	19.856	-	13.135	400.474	387.339	387.339	Good	0.46	2389	7.08	212.5	417.5	21.2	Medium	Brown/yellowish	No odour	No sheen	HydraSleeve™
0207	MW278	16/04/2022	14/04/2023	14/04/2023	22.118	-	8.083	404.155	396.072	396.072	Good	0.39	1240	7.11	104.4	309.4	23.3	Medium	Clearish/Cloudy	No odour	No sheen	HydraSleeve™
0207	MW279	15/04/2022	-	-	Not found																	Not found

Table T1 Groundwater Gauging and Quality Parameter Field Measurement Results

Property ID	Well ID	Date Hydrasleeve Installed	Date Hydrasleeve Sampled	Gauging Date	Well Depth (mbtoc)	Depth to LNAPL (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)*	Condition of Gatic	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_r (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	MW280	14/04/2022	14/04/2023	14/04/2023	30.004	-	10.969	398.486	387.517	387.517	Good	0.72	2080	7.37	9.6	214.6	19.3	Medium-high	Clear	Sulfuric odour	No sheen	HydraSleeve™
0207	MW281	14/04/2022	14/04/2023	14/04/2023	18.485	-	8.121	396.856	388.735	388.735	Good	1.79	2394	6.88	80.4	285.4	20.8	Medium-high	Cloudy	No odour	No sheen	HydraSleeve™
0207	MW282	15/04/2022	14/04/2023	14/04/2023	15.984	-	4.729	397.327	392.598	392.598	Good	1.31	1215	6.89	25.2	230.2	20.5	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW283	13/04/2022	18/04/2023	18/04/2023	14.982	-	8.743	395.371	386.628	386.628	Good	0.66	746	7.11	125.4	330.4	21.5	High	Clear/brownish	No odour	No sheen	HydraSleeve™
0207	MW285	16/04/2022	14/04/2023	14/04/2023	10.695	-	4.924	398.331	393.407	393.407	Good	1.03	1782	7.52	104.5	309.5	21.2	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW288	21/04/2022	18/04/2023	18/04/2023	21.806	-	13.024	402.161	389.137	389.137	Good	0.34	1143	7.59	28.8	233.8	18.9	High	Brown	No odour	No sheen	HydraSleeve™
0207	MW289	21/04/2022	-	-	Dry																	Dry
0207	MW290	21/04/2022	19/04/2023	19/04/2023	19.694	-	5.912	403.688	397.776	397.776	Good	0.66	3420	6.96	75.3	280.3	20.3	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW291	21/04/2022	19/04/2023	19/04/2023	56.152	-	14.786	403.709	388.923	388.923	Good	0.52	1590	7.54	18.3	223.3	20.7	Medium	Clear/Yellowish	Weak sulfuric odour	No sheen	HydraSleeve™
0207	MW292	14/04/2022	17/04/2023	17/04/2023	18.953	-	6.164	401.818	395.654	395.654	Good	0.43	4894	6.75	100.4	305.4	21.5	High	Brown	No odour	No sheen	HydraSleeve™
0207	MW293	14/04/2022	17/04/2023	17/04/2023	60.532	-	35.398	402.021	366.623	366.623	Good	1.91	3363	11.97	38.2	243.2	22.4	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW294	15/04/2022	18/04/2023	18/04/2023	18.358	-	7.997	403.780	395.783	395.783	Good	1.7	1656	7.53	21.9	226.9	20.7	Medium	Clear/brownish	No odour	No sheen	HydraSleeve™
0207	MW295	13/04/2022	18/04/2023	18/04/2023	69.9	-	7.782	402.837	395.055	395.055	Good	0.6	915	10.04	33	-	21	High	Clear/brownish	Weak sulfuric odour	No sheen	HydraSleeve™
0207	MW296	15/04/2021	-	-	Permission not granted																	Not sampled as no access permission
0207	MW297	15/04/2021	-	-	Permission not granted																	Not sampled as no access permission
0207	MW299	24/10/2022	12/04/2023	12/04/2023	15.448	-	12.195	403.970	391.775	391.775	Good	0.41	3944	6.91	152.3	357.3	21.8	Medium	Clear	No odour	No sheen	HydraSleeve™
0207	MW300	24/10/2022	12/04/2023	12/04/2023	16.392	-	12.945	403.715	390.770	390.770	Good	0.49	4701	6.8	141.2	346.2	21.1	Medium	Clear	No odour	No sheen	HydraSleeve™
207	MW562	03/11/2022	12/04/2023	12/04/2023	19.341	-	12.575	402.720	390.145	390.145	Good	0.89	1425	7.18	89.4	294.4	21.8	High	Cloudy	No odour	No sheen	HydraSleeve™
207	MW563	03/11/2022	12/04/2023	12/04/2023	16.529	-	12.523	402.900	390.377	390.377	Good	4.37	1592	7.1	106.3	311.3	19.4	Medium	Clear	No odour	No sheen	HydraSleeve™

* = Corrected Groundwater Elevation, $h_c = h_{measured} + (H_{PSH} * (r_{PSH}/r_{water}))$

mbtoc is metres below top of casing
mAHD is metres above Australian height datum
LNAPL is light non-aqueous phase liquid
DO is dissolved oxygen
EC is electrical conductivity
E_h is oxidation reduction potential
Oxidation reducation potential (E_r) measured with a platinum electrode and a silver/silver chloride reference electrode (E_r) and converted to E_h by $E_h = E_r + 205$ mV (based on a groundwater temperature of 21°C)
Temp is Temperature
µS/cm is microsiemens per centrimetre
ºC is degrees Celcius
mV is millivolts

Table T2 Groundwater PFAS Analytical Results

							Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids										Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				
						Sum of PFHxS and PFOS	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTeDA	FOSA	MeFOSE	EtFOSE	MeFOSA	EtFOSA	MFOSAA	EtFOSAA	4:2 FTS	6:2 FtS	8:2 FTS	10:2 FTS	Sum of PFAS
				Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				LOR		0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01
PFAS NEMP HEPA 2020 Drinking Water						**0.07**											**0.56**																	
PFAS NEMP HEPA 2020 Freshwater 99%											*0.00023*						*19*																	
Site_ID	**Field ID**	**Location ID**	**Date**	**SampleCode**	**Type**																														
1435	1435_MW001_230411	MW001	11/04/2023	EB2311390009	Normal	**0.33**	0.06	0.06	0.22	<0.02	*0.11*	<0.02	<0.1	0.24	0.18	0.06	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.2	<0.05	<0.05	1.16
1435	1435_MW002_230411	MW002	11/04/2023	EB2311390010	Normal	**1.38**	0.72	0.48	1.33	0.02	*0.05*	<0.02	2.1	18.7	13.6	5.93	0.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	<0.05	<0.05	43.3
1435	1435_MW003_230411	MW003	11/04/2023	EB2311390002	Normal	**29.4**	3.87	4.22	17.1	0.7	*12.3*	<0.02	0.7	1.8	6.36	1.36	**2.27**	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	<0.05	<0.05	50.9
1435	1435_MW004_230411	MW004	11/04/2023	EB2311390005	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
1435	1435_QC112_230419*	MW005	19/04/2023	EB2312082036	Field_D	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.2	<0.05	<0.05	0.2
1435	1435_QC212_230419	MW005	19/04/2023	N23/008170	Interlab_D	<0.01	<0.01	<0.01	<0.01	<0.01	*<0.02*	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	0.1
1435	1435_MW006_230411	MW006	11/04/2023	EB2311390004	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
1435	1435_MW007_230411	MW007	11/04/2023	EB2311390007	Normal	0.01	<0.02	<0.02	<0.01	<0.02	*0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01
1435	1435_MW008_230411	MW008	11/04/2023	EB2311390001	Normal	Result unable to be reported due to laboratory error																													
1435	1435_MW009_230411	MW009	11/04/2023	EB2311390003	Normal	**10.6**	0.93	1.1	4.66	0.32	*5.91*	<0.02	0.2	0.5	1.36	0.39	**0.61**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	16
1435	1435_MW010_230411	MW010	11/04/2023	EB2311390006	Normal	**1.12**	0.26	0.26	0.92	0.03	*0.2*	<0.02	0.1	0.41	0.47	0.18	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.98
1435	1435_MW011_230411	MW011	11/04/2023	EB2311390008	Normal	**0.23**	0.06	0.06	0.2	<0.02	*0.03*	<0.02	<0.1	0.05	0.09	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.54
1435	1435_MW012_230419	MW012	19/04/2023	EB2312082032	Normal	0.02	0.04	<0.02	0.02	<0.02	*<0.01*	<0.02	0.4	4.02	1.89	0.14	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	<0.05	<0.05	6.78
0207	0207_MW003_230418	MW003	18/04/2023	EB2312082013	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW019_230417	MW019	17/04/2023	EB2312082005	Normal	**0.12**	<0.02	<0.02	0.07	<0.02	*0.05*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12
0207	0207_MW021_230417	MW021	17/04/2023	EB2312082004	Normal	**6.85**	0.26	0.24	1.92	0.25	*4.93*	<0.02	<0.1	0.07	0.3	0.06	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	8.15
0207	0207_MW032_230417	MW032	17/04/2023	EB2312082008	Normal	**9.71**	0.27	0.32	2.52	0.15	*7.19*	<0.02	0.1	0.08	0.26	0.06	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	11.1
0207	0207_MW038_230413	MW038	13/04/2023	EB2311393001	Normal	**1.07**	0.07	0.06	0.36	0.03	*0.71*	<0.02	<0.1	<0.02	0.07	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.34
0207	0207_MW056_230417	MW056	17/04/2023	EB2312082002	Normal	**0.4**	0.04	0.04	0.29	<0.02	*0.11*	<0.02	<0.1	0.03	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.56
0207	0207_MW113_230420	MW113	20/04/2023	EB2312082044	Normal	**0.36**	0.03	0.03	0.22	<0.02	*0.14*	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.46
0207	0207_MW114_230420	MW114	20/04/2023	EB2312082046	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC113_230420	MW114	20/04/2023	EB2312082037	Field_D	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC213_230420	MW114	20/04/2023	N23/008171	Interlab_D	<0.01	<0.01	<0.01	<0.01	<0.01	*<0.02*	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
0207	0207_MW118_230420	MW118	20/04/2023	EB2312082045	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC114_230420	MW118	20/04/2023	EB2312082038	Field_D	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC214_230420	MW118	20/04/2023	N23/008172	Interlab_D	<0.01	<0.01	<0.01	<0.01	<0.01	*<0.02*	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
0207	0207_MW122_230420	MW122	20/04/2023	EB2312082048	Normal	**6.17**	0.26	0.25	1.99	0.17	*4.18*	<0.02	<0.1	0.14	0.49	0.08	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.05	<0.05	7.85
0207	0207_MW134_230419	MW134	19/04/2023	EB2312082030	Normal	**0.09**	0.02	<0.02	0.05	<0.02	*0.04*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.11
0207	0207_MW147_230417	MW147	17/04/2023	EB2312082006	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW149_230420	MW149	20/04/2023	EB2312082043	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW151_230417***	MW151	17/04/2023	EB2312082007	Normal	0.03	<0.02	<0.02	0.01	<0.02	*0.02*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03
0207	0207_MW151_230816	MW151	23/08/2023	EB2325318001	Normal	0.02	<0.02	<0.02	<0.01	<0.02	*0.02*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02
0207	0207_MW157_230420	MW157	20/04/2023	EB2312082047	Normal	**8.93**	0.58	0.57	3.24	0.35	*5.69*	<0.02	0.1	0.22	0.85	0.14	0.24	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	12
0207	0207_MW167_230412	MW167	12/04/2023	EB2311390035	Normal	**8.62**	0.77	0.68	3.15	0.39	*5.47*	<0.02	0.2	0.32	1.38	0.23	0.46	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	13
0207	0207_QC103_230412	MW167	12/04/2023	EB2311393002	Field_D	**9.65**	0.85	0.79	3.64	0.4	*6.01*	<0.02	0.3	0.35	1.44	0.26	0.46	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	14.5
0207	0207_QC203_230412	MW167	12/04/2023	N23/007674	Interlab_D	**5.40**	0.57	0.52	2.2	0.2	*3.2*	<0.01	0.21	0.24	0.99	0.16	0.31	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8.60
0207	0207_MW172_230412	MW172	12/04/2023	EB2311390033	Normal	**17.8**	1.13	0.89	4.45	0.44	*13.4*	<0.02	1.1	4.06	3.07	1.72	**1.41**	0.16	0.07	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	3.3	0.99	<0.05	36.2
0207	0207_MW173_230412	MW173	12/04/2023	EB2311390034	Normal	**4.8**	0.39	0.38	2.49	0.19	*2.31*	<0.02	0.4	1.19	1.52	0.61	0.51	0.12	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	<0.05	<0.05	10.4
0207	0207_MW174_230413	MW174	13/04/2023	EB2311390043	Normal	0.06	0.03	<0.02	0.03	<0.02	*0.03*	<0.02	<0.1	0.04	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.13
0207	0207_MW178_230413	MW178	13/04/2023	EB2311390045	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW179_230413	MW179	13/04/2023	EB2311390042	Normal	**5.25**	0.73	0.55	2.66	0.27	*2.59*	<0.02	0.3	0.31	1.58	0.3	0.54	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.05	<0.05	9.9
0207	0207_MW187_230413	MW187	13/04/2023	EB2311390044	Normal	**0.87**	0.06	0.07	0.5	0.02	*0.37*	<0.02	<0.1	0.03	0.08	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.15
0207	0207_MW189_230413	MW189	13/04/2023	EB2311390046	Normal	**0.22**	0.02	0.02	0.12	<0.02	*0.1*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.26
0207	0207_QC106_230413	MW189	13/04/2023	EB2311393005	Field_D	**0.21**	0.02	0.02	0.11	<0.02	*0.1*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.25
0207	0207_QC206_230413	MW189	13/04/2023	N23/007677	Interlab_D	**0.20**	0.012	0.017	0.12	<0.01	*0.078*	<0.01	<0.05	<0.02	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24
0207	0207_MW193_230412	MW193	12/04/2023	EB2311390021	Normal	**24.1**	2.62	2.64	12.9	1.08	*11.2*	<0.05	4.1	1.4	5.88	1.41	**2.2**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	45.4
0207	0207_MW198_230412	MW198	12/04/2023	EB2311390022	Normal	**5.3**	0.12	0.14	0.99	0.17	*4.31*	<0.02	<0.1	0.12	0.24	0.08	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	6.3
0207	0207_MW201_230412	MW201	12/04/2023	EB2311390025	Normal	**186**	37.8	39	184	2.48	*2.31*	<0.23	7	10.4	49.3	8.08	**8.76**	<0.23	<0.23	<0.23	<0.23	<0.23	<0.58	<0.58	<0.58	<0.58	<0.23	<0.23	<0.23	0.42	<0.23	<0.23	350
0207	0207_MW202_230412	MW202	12/04/2023	EB2311390024	Normal	**171**	8.63	8.8	63	5.01	*108*	<0.24	1.9	3.21	13.7	1.99	**4.22**	<0.24	<0.24	<0.24	<0.24	<0.24	<0.6	0.5	<0.6	<0.6	<0.6	<0.6	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	219
0207	0207_MW203_230412	MW203	12/04/2023	EB2311390026	Normal	**10.8**	1	1.28	10	0.16	*0.85*	<0.02	0.3	0.47	1.58	0.3	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	16.2
0207	0207_MW204_230412	MW204	12/04/2023	EB2311390027	Normal	**667**	77.2	86.7	549	40.3	*118*	<0.9	13.1	21.9	104	18.9	***41.5***	<0.9	<0.9	<0.9	<0.9	<0.9	<2.25	<0.9	<2.25	<2.25	<2.25	<2.25	<0.9	<0.9	<0.9	1.44	<0.9	<0.9	1070
0207	0207_QC104_230412	MW204	12/04/2023	EB2311393003	Field_D	**704**	69	93.8	558	40.2	*146*	<0.83	15	19.8	98.4	18	***39.7***	<0.83	<0.83	<0.83	<0.83	<0.83	<2.08	<0.83	<2.08	<2.08	<2.08	<2.08	<0.83	<0.83	<0.83	2.08	<0.83	<0.83	1100
0207	0207_QC204_230412	MW204	12/04/2023	N23/007675	Interlab_D	**401**	52	59	330	21	*71*	<0.01	10	14	63	11	***24***	0.071	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	0.012	1.7	<0.01	<0.01	657
0207	0207_MW205_230412	MW205	12/04/2023	EB2311390028	Normal	**26**	3.14	2.8	18.5	1.18	*7.54*	<0.02	0.8	1.36	4.73	0.48	**1.03**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	41.6
0207	0207_MW207_230412	MW207	12/04/2023	EB2311390023	Normal	**2.15**	0.19	0.23	1.46	0.1	*0.69*	<0.02	<0.1	0.1	0.23	0.08	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.17
0207	0207_MW221_230412	MW221	12/04/2023	EB2311390020	Normal	**3.94**	0.38	0.37	1.85	0.19	*2.09*	<0.02	0.1	0.24	0.87	0.23	0.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	6.7
0207	0207_MW222_230412	MW222	12/04/2023	EB2311390018	Normal	**19**	0.47	0.55	3.77	0.54	*15.2*	<0.02	0.5	1.24	1.78	0.87	**1.36**	0.47	0.04	<0.02	<0.02	<0.02	<0.05	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.57	0.22	<0.05	27.6
0207	0207_MW223_230412	MW223	12/04/2023	EB2311390019	Normal	**17**	0.41	0.43	3.29	0.77	*13.7*	<0.02	5.3	18.5	10.8	9.01	**5.18**	1.98	0.06	<0.02	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.81	0.68	<0.05	74
0207	0207_MW229_230413	MW229	13/04/2023	EB2311390047	Normal	**46**	1.06	1.19	11.1	0.9	*34.9*	<0.04	<0.2	0.37	2.37	0.23	**0.7**	<0.04	<0.04	<0.04	<0.04	<0.04	<0.1	<0.04	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	52.8
0207	0207_MW230_230412	MW230	12/04/2023	EB2311390016	Normal	**1.72**	0.34	0.3	1.24	0.05	*0.48*	<0.02	0.3	0.48	0.73	0.17	0.18	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	4.29
0207	0207_MW232_230412	MW232	12/04/2023	EB2311390017	Normal	**22.3**	0.83	1.22	6.16	0.98	*16.1*	<0.02	1.1	2.74	2.32	1.17	**1.7**	0.47	0.38	<0.02	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.17	1.7	<0.05	37.1
0207	0207_MW233_230413	MW233	13/04/2023	EB2311390048	Normal	**1.03**	0.21	0.14	0.77	<0.02	*0.26*	<0.02	<0.1	0.04	0.13	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.58
0207	0207_QC105_230413	MW233	13/04/2023	EB2311393004	Field_D	**1.08**	0.19	0.16	0.81	0.02	*0.27*	<0.02	<0.1	0.04	0.14	0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.69
0207	0207_QC205_230413	MW233	13/04/2023	N23/007676	Interlab_D	**1.04**	0.14	0.12	0.79	0.02	*0.25*	<0.01	0.053	0.031	0.1	0.016	0.037	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.56
0207	0207_MW235_230411	MW235	11/04/2023	EB2311390014	Normal	**11.2**	4.39	3.55	6.93	0.22	*4.27*	<0.02	1.2	1.58	5.3	0.37	0.23	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	28
0207	0207_MW236_230411	MW236	11/04/2023	EB2311390015	Normal	**3.22**	1.38	0.79	2.38	0.07	*0.84*	<0.02	0.8	0.65	2.2	0.15	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	9.48
0207	0207_MW241_230411	MW241	11/04/2023	EB2311390013	Normal	**5.68**	0.13	0.14	1.02	0.11	*4.66*	<0.02	<0.1	0.07	0.17	0.04	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	6.45
0207	0207_MW243_230413	MW243	13/04/2023	EB2311390040	Normal	0.02	<0.02	<0.02	<0.01	<0.02	*0.02*	<0.02

						Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids										Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				
					Sum of PFHxS and PFOS	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTeDA	FOSA	MeFOSE	EtFOSE	MeFOSA	EtFOSA	MeFOSAA	EtFOSAA	4:2 FTS	6:2 FtS	8:2 FTS	10:2 FTS	Sum of PFAS
				Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				LOR	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01
PFAS NEMP HEPA 2020 Drinking Water					**0.07**											**0.56**																	
PFAS NEMP HEPA 2020 Freshwater 99%										*0.00023*						*19*																	
0207	0207_MW268_230418	MW268	18/04/2023	EB2312082018	Normal	**0.73**	0.13	0.1	0.5	0.02	*0.23*	<0.02	<0.1	0.04	0.14	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.18
0207	0207_MW269_230816**	MW269	16/08/2023	EB2325321001	Normal	**0.08**	<0.02	<0.02	0.03	<0.02	*0.05*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	<0.05	<0.05	0.22
0207	0207_MW270_230510	MW270	10/05/2023	EB2314294001	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	0.06
0207	0207_MW271_230510	MW271	10/05/2023	EB2314294002	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW272_230413	MW272	13/04/2023	EB2311390038	Normal	**0.59**	0.08	0.08	0.42	<0.02	*0.17*	<0.02	<0.1	0.02	0.11	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.9
0207	0207_QC107_230413	MW272	13/04/2023	EB2311393006	Field_D	**0.64**	0.09	0.1	0.46	0.02	*0.18*	<0.02	<0.1	<0.02	0.11	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.98
0207	0207_QC207_230413	MW272	13/04/2023	N23/007678	Interlab_D	**0.50**	0.054	0.064	0.39	<0.01	*0.11*	<0.01	<0.05	<0.02	0.077	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.05	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.7
0207	0207_MW273_230413	MW273	13/04/2023	EB2311390037	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW274_230414	MW274	14/04/2023	EB2311390056	Normal	<0.01	0.1	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.1
0207	0207_MW275_230414	MW275	14/04/2023	EB2311390057	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC108_230414	MW275	14/04/2023	EB2311393007	Field_D	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC208_230414	MW275	14/04/2023	N23/007679	Interlab_D	0.013	<0.01	<0.01	0.013	<0.01	*<0.02*	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.05	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013
0207	0207_MW276_230413	MW276	13/04/2023	EB2311390036	Normal	**18.4**	1.03	1.19	8.05	0.67	*10.4*	<0.02	0.3	0.35	1.72	0.28	**0.57**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	24.6
0207	0207_MW278_230414	MW278	14/04/2023	EB2311390050	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW280_230414	MW280	14/04/2023	EB2311390055	Normal	**0.24**	<0.02	<0.02	0.13	<0.02	*0.11*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.24
0207	0207_MW281_230414	MW281	14/04/2023	EB2311390053	Normal	**3.75**	0.36	0.26	1.41	0.13	*2.34*	<0.02	<0.1	0.07	0.3	0.08	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	5.12
0207	0207_MW282_230414	MW282	14/04/2023	EB2311390052	Normal	**2.1**	0.15	0.1	0.83	0.03	*1.27*	<0.02	<0.1	<0.02	0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.42
0207	0207_MW283_230418	MW283	18/04/2023	EB2312082014	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW285_230414	MW285	14/04/2023	EB2311390051	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04
0207	0207_MW288_230418	MW288	18/04/2023	EB2312082016	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW290_230419	MW290	19/04/2023	EB2312082029	Normal	**0.2**	0.07	0.06	0.17	<0.02	*0.03*	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.35
0207	0207_MW291_230419	MW291	19/04/2023	EB2312082031	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW292_230417	MW292	17/04/2023	EB2312082003	Normal	**0.28**	<0.02	<0.02	0.15	<0.02	*0.13*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.28
0207	0207_QC109_230417	MW292	17/04/2023	EB2312082033	Field_D	**0.37**	<0.02	<0.02	0.2	<0.02	*0.17*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.37
0207	0207_QC209_230417	MW292	17/04/2023	N23/008167	Interlab_D	**0.22**	0.01	0.012	0.13	<0.01	*0.088*	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24
0207	0207_MW293_230417	MW293	17/04/2023	EB2312082001	Normal	0.02	<0.02	<0.02	<0.01	<0.02	*0.02*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02
0207	0207_MW294_230418	MW294	18/04/2023	EB2312082019	Normal	**0.75**	0.03	0.02	0.17	<0.02	*0.58*	<0.02	0.1	0.13	0.1	0.05	0.05	0.2	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.43
0207	0207_MW295_230418	MW295	18/04/2023	EB2312082015	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW299_230412	MW299	12/04/2023	EB2311390029	Normal	**277**	10.1	8.56	43.3	6.07	*234*	<0.44	3.4	6.07	28.4	6.07	**15.2**	<0.44	<0.44	<0.44	<0.44	<0.44	<1.09	<0.44	<1.09	<1.09	<1.09	<1.09	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	361
0207	0207_MW300_230412	MW300	12/04/2023	EB2311390030	Normal	**94**	6.39	6.58	30.9	4.78	*63.1*	<0.1	1.9	2.89	12	2.9	**7.72**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.24	<0.24	<0.24	<0.1	<0.1	<0.1	0.12	<0.1	<0.1	139
0207	0207_MW562_230412	MW562	12/04/2023	EB2311390032	Normal	**0.2**	0.09	0.06	0.17	<0.02	*0.03*	<0.02	0.1	0.15	0.13	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.75
0207	0207_MW563_230412	MW563	12/04/2023	EB2311390031	Normal	**16.7**	2.9	3.21	16.2	0.29	*0.5*	<0.05	0.7	1.1	4.37	0.66	**0.74**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	30.7

LOR is limit of reporting
µg/L is micrograms per litre
-' denotes no analysis undertaken
<' denotes concentration is less than
NEMP is National Environmental Mangement Plan
Denotes first time detection above LOR
Denotes new exceedance of human health guideline values
* Due to an analytical issue, the primary result for 1435_MW005 was not validated and results have not been considered for assessment purposes. Duplicate (1435_QC112) and triplicate (1435_QC212) results are available for this well.
** Due to an analytical issue, sample 0207_MW269 was not validated and results have not been considered for assessment purposes. The well was resampled on 16/08/2023.
*** Due to the first-time detection of PFAS in the sample from MW151, the well was resampled on 16/08/2023.

Table T3 Surface Water Quality Parameter Field Measurement Results

Property ID	Location ID	Location	Sample Date	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_r (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
0207	SW004	Oakey Creek	15/03/2023	5.75	927	8.11	36.4	241.4	24.9	Medium	Clear	No odour	No sheen	Grab sample
0207	SW009	Drain 2	15/03/2023	3.23	93.1	8.05	27.7	232.7	22.4	Low	Clear	No odour	No sheen	Grab sample
0207	SW010	Oakey Creek	15/03/2023	5.66	972	8.05	38.8	243.8	24.8	Medium	Clear	No odour	No sheen	Grab sample
0207	SW011	Oakey Creek	15/03/2023	4.87	927	8.06	49.5	254.5	24.3	Medium	Clear	No odour	No sheen	Grab sample
0207	SW012	Oakey Creek	15/03/2023	4.64	637	8.13	75.3	280.3	24.7	Medium	Clear	No odour	No sheen	Grab sample
0207	SW013	Oakey Creek	15/03/2023	3.71	573	8.34	5.4	210.4	26.3	Medium	Clear	No odour	No sheen	Grab sample
0207	SW019	Drain 3	15/03/2023	0.2	1790	7.63	47.6	252.6	34.9	Low	Clear	No odour	No sheen	Grab sample
0207	SW021	Drain 3	15/03/2023	3.82	82.7	7.76	57	262	26	Low	Clear	No odour	No sheen	Grab sample
0207	SW024	Drain 2	15/03/2023	2.36	131.4	7.48	39	244	26.9	Low	Clear	No odour	No sheen	Grab sample
0207	SW025	Drain 2	15/03/2023	3.92	224.1	7.35	89.1	294.1	26.3	Low	Clear	No odour	No sheen	Grab sample
0207	SW026	Drain 1	15/03/2023	0.5	179.2	7.53	13.3	218.3	23.4	Low	Clear	No odour	No sheen	Grab sample
0207	SW027	Drain 2	15/03/2023	0.2	93.5	7.37	-12.4	192.6	23.4	Low	Clear	No odour	No sheen	Grab sample
0207	SW028	Westbrook Creek	15/03/2023	5.37	1044	8.21	62.8	267.8	23.7	Medium	Clear	No odour	No sheen	Grab sample
0207	SW032	Oakey Creek	-	-	-	-	-	-	-	-	-	-	-	Not collected due to unsafe access.
0207	SW040	Oakey Creek	19/04/2023	4.52	293.3	7.94	97.7	302.7	20.2	High	Brown	No odour	No sheen	Grab sample
0207	SW043	Doctor Creek	19/04/2023	4.33	409.1	7.68	92.6	297.6	20.4	High	Brown	No odour	No sheen	Grab sample
0207	SW056	Oakey Creek	18/04/2023	4.39	305.7	7.68	80.8	285.8	22.3	High	Brown	No odour	No sheen	Grab sample
0207	SW057	Drain 3	18/04/2023	5.19	254.2	8.01	85.6	-	23.1	High	Brown	No odour	No sheen	Grab sample
0207	SW059	Oakey Creek	-	-	-	-	-	-	-	-	-	-	-	Not collected due to unsafe access.
0207	SW063	Drain 3	15/03/2023	0.5	152.6	7.72	80.2	-	30.1	High	Clear	No odour	No sheen	Grab sample
0207	SW065	Drain 1	-	-	-	-	-	-	-	-	-	-	-	Dry
0207	SW066	Drain 1	19/04/2023	3.79	159.1	6.74	86.9	291.9	27.2	High	Brown	No odour	No sheen	Grab sample

DO is dissolved oxygen
EC is electrical conductivity
E_h is oxidation reduction potential
Oxidation reducation potential (E_r) measured with a platinum electrode and a silver/silver chloride reference electrode (E_r) and converted to E_h by $E_h = E_r + 205$ mV (based on a groundwater temperature of 21°C)
Temp is Temperature
µS/cm is microsiemens per centrimetre
ºC is degrees Celcius
mV is millivolts

Table T4 Surface Water PFAS Analytical Results

							Sum of PFHxS and PFOS	Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids										Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic				Sum of PFAS
								PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTeDA	FOSA	MeFOSE	EtFOSE	MeFOSA	EtFOSA	MFOSAA	EtFOSAA	4:2 FTS	6:2 FtS	8:2 FTS	10:2 FTS	
						Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
						LOR	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01
PFAS NEMP HEPA 2020 Freshwater 99%												*0.00023*						*19*																	
PFAS NEMP HEPA 2020 Recreational Water							**2**											**10**																	
Site_ID	**Field ID**	**Location ID**	**Location**	**Date**	**SampleCode**	**Type**																													
0207	0207_SW004_230315	SW004	Oakey Creek	15/03/2023	EB2308035013	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.02*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_SW009_230315	SW009	Drain 2	15/03/2023	EB2308035005	Normal	1.14	0.04	0.02	0.24	<0.02	*0.9*	<0.02	<0.1	<0.02	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.27
0207	0207_SW010_230315	SW010	Oakey Creek	15/03/2023	EB2308035012	Normal	0.13	<0.02	<0.02	0.04	<0.02	*0.09*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.13
0207	0207_SW011_230315	SW011	Oakey Creek	15/03/2023	EB2308035011	Normal	0.23	<0.02	<0.02	0.11	<0.02	*0.12*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.23
0207	0207_SW012_230315	SW012	Oakey Creek	15/03/2023	EB2308035010	Normal	0.12	<0.05	<0.05	<0.05	<0.05	*0.12*	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12
0207	0207_SW013_230315	SW013	Oakey Creek	15/03/2023	EB2308035009	Normal	0.79	0.04	<0.02	0.19	<0.02	*0.6*	<0.02	<0.1	<0.02	0.08	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.92
0207	0207_QC100_230315	SW013	Oakey Creek	15/03/2023	EB2308035029	Field_D	0.67	0.04	0.02	0.17	<0.02	*0.5*	<0.02	<0.1	<0.02	0.06	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.79
0207	0207_QC200_230315	SW013	Oakey Creek	15/03/2023	N23/005435	Interlab_D	0.63	0.038	0.023	0.15	<0.01	*0.48*	<0.01	<0.05	<0.02	0.058	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.76
0207	0207_SW019_230315	SW019	Drain 3	15/03/2023	EB2308035008	Normal	1.11	<0.06	<0.05	0.36	<0.05	*0.75*	<0.05	<0.2	<0.05	0.1	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.29
0207	0207_SW021_230315	SW021	Drain 3	15/03/2023	EB2308035006	Normal	0.39	<0.02	<0.02	0.06	<0.02	*0.33*	<0.02	0.5	1.06	0.84	0.95	1.54	1.03	0.67	0.27	0.2	0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.68	3.15	<0.05	11.3
0207	0207_SW024_230315	SW024	Drain 2	15/03/2023	EB2308035001	Normal	**3.23**	<0.04	0.03	0.36	0.04	*2.87*	<0.02	<0.1	<0.02	0.05	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.4
0207	0207_QC102_230315	SW024	Drain 2	15/03/2023	EB2308035031	Field_D	**2.98**	<0.02	0.02	0.29	0.04	*2.69*	<0.02	<0.1	<0.02	0.05	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.14
0207	0207_QC202_230315	SW024	Drain 2	15/03/2023	N23/005437	Interlab_D	1.97	0.018	0.026	0.27	0.03	*1.7*	<0.01	<0.05	<0.02	0.046	0.012	0.045	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.15
0207	0207_SW025_230315	SW025	Drain 2	15/03/2023	EB2308300001	Normal	0.77	0.05	0.03	0.26	<0.02	*0.51*	<0.02	<0.1	<0.02	0.05	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.92
0207	0207_SW026_230315	SW026	Drain 1	15/03/2023	EB2308035004	Normal	1.16	<0.04	<0.02	0.22	<0.02	*0.94*	<0.02	<0.1	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.16
0207	0207_SW027_230315	SW027	Drain 2	15/03/2023	EB2308035003	Normal	0.61	<0.02	<0.02	0.14	<0.02	*0.47*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.61
0207	0207_SW028_230315	SW028	Westbrook Creek	15/03/2023	EB2308035014	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.02*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_SW040_230419	SW040	Oakey Creek	19/04/2023	EB2312082027	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_SW043_230419	SW043	Doctor Creek	19/04/2023	EB2312082024	Normal	<0.01	0.03	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03
0207	0207_SW056_230418	SW056	Oakey Creek	18/04/2023	EB2312082009	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_SW110_230418	SW056	Oakey Creek	18/04/2023	EB2312082034	Field_D	<0.01	<0.02	<0.02	<0.01	<0.02	*<0.01*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_QC210_230418	SW056	Oakey Creek	18/04/2023	N23/008168	Interlab_D	<0.01	<0.01	<0.01	<0.01	<0.01	*<0.02*	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
0207	0207_SW057_230418	SW057	Drain 3	18/04/2023	EB2312082011	Normal	0.69	0.02	<0.02	0.11	<0.02	*0.58*	<0.02	<0.1	0.07	0.05	0.02	0.04	0.04	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.96
0207	0207_SW063_230315	SW063	Drain 1	15/03/2023	EB2308035007	Normal	1.3	<0.04	<0.02	0.26	<0.02	*1.04*	<0.02	<0.1	<0.08	0.12	0.04	0.09	0.06	0.05	0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	0.17	<0.05	1.85
0207	0207_SW066_230419	SW066	Drain 1	19/04/2023	EB2312082022	Normal	1.03	0.11	0.06	0.34	0.02	*0.69*	<0.02	<0.1	0.04	0.08	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.36

LOR is limit of reporting
µg/L is micrograms per litre
-' denotes no analysis undertaken
<' denotes concentration is less than
NEMP is National Environmental Mangement Plan
Denotes first time detection above LOR
Denotes new exceedance of human health guideline values

Table T5 Sediment Field Observations

Property ID	Location ID	Location	Sample Date	Sample Description	Odour	Sample Method / Comments
0207	SD007	Doctor Creek	19/04/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD010	Drain 2	15/03/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD011	Drain 2	15/03/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD013	Drain 2	15/03/2023	SILT, dark grey, saturated, medium plasticity, soft with traces of fine to medium sand and organic matter.	No odour	Grab sample
0207	SD015	Drain 1	15/03/2023	Silty CLAY, brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD016	Drain 3	15/03/2023	Silty CLAY, brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD017	Drain 3	18/04/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD018	Drain 3	18/04/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD022	Drain 1	19/04/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD024	Drain 2	15/03/2023	Silty CLAY, brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD025	Drain 3	15/03/2023	Silty CLAY, brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD032	Oakey Creek	Not sampled due to unsafe access.			
0207	SD036	Oakey Creek	15/03/2023	Silty CLAY, dark brown, saturated, low plasticity, soft with organic matter.	No odour	Grab sample
0207	SD037	Oakey Creek	15/03/2023	Silty CLAY, brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD038	Oakey Creek	15/03/2023	Silty CLAY, dark brown, wet, low plasticity, soft with organic matter.	No odour	Grab sample
0207	SD040	Oakey Creek	19/04/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD045	Oakey Creek	Not sampled due to unsafe access.			
0207	SD070	Westbrook Creek	15/03/2023	Silty CLAY, black, wet, low plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD102	Oakey Creek	15/03/2023	Silty CLAY, black, wet, low plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD105	Oakey Creek	15/03/2023	Silty CLAY, dark grey, moist, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD106	Drain 1	19/04/2023	Silty CLAY, dark brown, saturated, medium plasticity, soft, with organic matter.	No odour	Grab sample
0207	SD107	Drain 3	15/03/2023	Silty CLAY, red brown, saturated, medium plasticity, very soft, with organic matter.	No odour	Grab sample

Table T6 Sediment PFAS Analytical Results

		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids												Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids					
	Sum of PFHxS and PFOS	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTeDA	FOSA	MeFOSE	EtFOSE	MeFOSA	EtFOSA	MFOSAA	EtFOSAA	4:2 FTS	6:2 FtS	8:2 FTS	10:2 FTS	Sum of PFAS	Moisture Content
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
LOR	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.1
0207_SD007_230419	SD007	19/04/2023	EB2312082025	Normal	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	35.8
0207_SD010_230315	SD010	15/03/2023	EB2308035018	Normal	0.0546	<0.0002	<0.0002	0.0016	0.0003	0.053	0.0016	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0567	49.1
0207_SD011_230315	SD011	15/03/2023	EB2308035019	Normal	0.0138	<0.0002	<0.0002	0.0007	<0.0002	0.0131	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0143	33.9
0207_SD013_230315	SD013	15/03/2023	EB2308035021	Normal	0.0384	<0.0002	<0.0002	0.0012	0.0003	0.0372	0.0016	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0413	43.8
0207_SD015_230315	SD015	15/03/2023	EB2308035020	Normal	0.0364	<0.0002	<0.0002	0.002	0.0003	0.0344	0.0026	<0.001	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0398	53.5
0207_SD016_230315	SD016	15/03/2023	EB2308035024	Normal	0.0073	<0.0002	<0.0002	0.0004	<0.0002	0.0069	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0007	0.001	0.0011	0.0004	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0108	39.9
0207_SD017_230418	SD017	18/04/2023	EB2312082012	Normal	0.0194	<0.0002	<0.0002	0.0002	<0.0002	0.0192	0.002	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0007	0.0024	0.0018	0.0011	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0278	31
0207_SD018_230418	SD018	18/04/2023	EB2312082010	Normal	0.0053	<0.0002	<0.0002	<0.0002	<0.0002	0.0053	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0057	31.5
0207_QC111_230418	SD018	18/04/2023	EB2312082035	Field_D	0.0078	<0.0002	<0.0002	<0.0002	<0.0002	0.0078	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0084	35.3
0207_QC211_230418	SD018	18/04/2023	N23/008169	Interlab_D	0.0065	<0.001	<0.001	<0.001	<0.001	0.0065	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	0.0065	-
0207_SD022_230419	SD022	19/04/2023	EB2312082023	Normal	0.024	<0.0002	<0.0002	0.0012	0.0002	0.0228	0.0023	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0265	52.1
0207_SD024_230315	SD024	15/03/2023	EB2308035017	Normal	0.0757	0.001	0.0007	0.0079	0.0009	0.0678	0.0004	<0.001	<0.0002	0.0007	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0004	<0.0006	0.0011	<0.0006	<0.0006	<0.0006	<0.0006	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0815	49
0207_QC103_230315	SD024	15/03/2023	EB2308035032	Field_D	0.0764	0.0008	0.0005	0.0076	0.0009	0.0688	<0.0002	<0.001	<0.0002	0.0006	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0006	<0.0002	<0.0006	<0.0006	<0.0006	<0.0006	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0796	47.8
0207_QC203_230315	SD024	15/03/2023	N23/005438	Interlab_D	0.0806	<0.001	<0.001	0.0076	<0.001	0.073	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	0.0806	-
0207_SD025_230315	SD025	15/03/2023	EB2308035022	Normal	0.0683	<0.001	<0.001	0.0034	<0.001	0.0649	0.0072	<0.005	<0.001	0.0022	0.0039	0.0119	0.0254	0.147	0.538	1.46	1.49	1.99	<0.001	<0.0025	<0.0025	<0.0025	<0.0025	<0.001	<0.001	<0.001	0.0065	0.454	0.126	6.33	58.6
0207_SD036_230315	SD036	15/03/2023	EB2308035027	Normal	0.0126	<0.0002	<0.0002	0.0007	<0.0002	0.0119	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.001	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0144	47.6
0207_SD037_230315	SD037	15/03/2023	EB2308035028	Normal	0.0032	<0.0002	<0.0002	0.0003	<0.0002	0.0029	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0034	39.2
0207_SD038_230315	SD038	15/03/2023	EB2308035034	Normal	0.0021	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	58
0207_SD040_230419	SD040	19/04/2023	EB2312082028	Normal	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	41.5
0207_SD070_230315	SD070	15/03/2023	EB2308035016	Normal	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	38.4
0207_SD102_230315	SD102	15/03/2023	EB2308035025	Normal	0.0089	<0.0002	<0.0002	0.0006	<0.0002	0.0083	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0097	47
0207_QC101_230315	SD102	15/03/2023	EB2308035030	Field_D	0.0151	<0.0002	<0.0002	0.0007	<0.0002	0.0144	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0153	52.9
0207_QC201_230315	SD102	15/03/2023	N23/005436	Interlab_D	0.011	<0.001	<0.001	<0.001	<0.001	0.011	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	0.011	-
0207_SD105_230315	SD105	15/03/2023	EB2308035026	Normal	0.0119	<0.0002	<0.0002	0.0006	<0.0002	0.0113	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0002	0.0012	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0142	42.5
0207_SD106_230419	SD106	19/04/2023	EB2312082026	Normal	0.0626	<0.0002	<0.0002	0.0026	0.0008	0.06	<0.0002	<0.001	0.0006	0.0008	0.0008	0.0016	0.0029	0.0029	0.0046	0.0084	0.0029	0.0021	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	0.0026	0.0006	0.0942	32.6
0207_SD107_230315	SD107	15/03/2023	EB2308035023	Normal	0.0073	<0.0002	<0.0002	0.0005	<0.0002	0.0068	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0004	0.0009	0.0015	0.0018	0.0006	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	0.0016	<0.0005	0.0143	34.9

LOR is limit of reporting
mg/kg is milligrams per kilogram
µg/kg is micrograms per kilogram
-' denotes no analysis undertaken
<' denotes concentration is less than
Denotes first time detection above LOR

Appendix C

Analytical Data Validation

Appendix C Analytical Data Validation

DATA VALIDATION REPORT

Project No.:	60612563	**Validation by:** JS		**Date:**	24/05/2023
Client:	Department of Defence				
Site:	Army Aviation Centre Oakey				
Matrix type:	Groundwater, surface water, sediment	**Data verified by:** JP		**Date:**	28/08/2023
No. of primary samples:	90 groundwater, 19 surface water, 20 sediment				
Laboratory:	ALS (Brisbane), NMI (Sydney)	**Project Manager:** JP			
Lab reference:	EB2308035; EB2308300; EB2311390; EB2311393; EB2312082; EB2314294; EB2325318; EB2325321; RN1393925; RN1393926; RN1391817				

Key Issues:	Two QA/QC issues were identified in the analytical laboratory dataset. The quality assurance sample set for MW005 (Brymaroo) showed differences with the primary sample reporting first-time detections of PFOS and PFHxS, while PFAS were not detected in the duplicate and triplicate samples (QC112 and QC212). An investigation was conducted by ALS and the laboratory identified that it was possible that sample bottles for MW005 and MW269 were switched during the extraction process. As there was no volume remaining to re-extract and confirm the results ALS were not able to amend the results and confirm the error. Due to this uncertainty, results for both samples were disregarded from the dataset. Monitoring well MW269 was resampled on 16 August 2023 and no issues were identified with this sample indicating it is suitable for data assessment purposes. MW005 (Brymaroo) was not resampled as duplicate and triplicate results were available. Results for a second groundwater sample analysed at ALS (1435_MW008 [Brymaroo]) could not be reported due to a laboratory error. Due to the first-time detection of PFAS in the sample from MW151, the bore was resampled on 16 August 2023 to verify the detection. PFOS was detected in the second sample, verifying the first-time detection. All other data were considered appropriate for use to meet the project objectives. All analytical data have been uploaded and assigned to DERP ESdat.

Field QA/QC

Sampling personnel	Sampling was conducted by an AECOM environmental scientist on 15 March 2023, between 11 and 20 April 2023, on 10 May 2023 and 16 August 2023.
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.
Hydrasleeve sampling	All hydrasleeves were left in the monitoring wells for a minimum of 24 hours prior to being sampled. Installation and retrieval dates are shown in **Table T1** in **Appendix B**.
Daily Equipment Calibration	Daily equipment calibration was completed during the sampling event and are attached within **Appendix F**.
Chain of Custody (COC)	COC documents were completed as per AECOM procedures and are attached within **Appendix D**.
Rinsate Blank (refer to **Table C1**)	Rinsate blank samples were collected at a frequency of approximately one per day of sampling (nine in total) where non-dedicated sampling equipment was used. All rinsate blank samples were collected from the decontaminated interface probe. PFAS concentrations were not detected above the limit of reporting for all compounds tested.

Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected for samples analysed for PFAS at a frequency of one in ten primary samples (thirteen sets for 107 water samples [12%] and three sets for 20 sediment samples [15%]. The frequency of field QC achieves the expected frequency.
Handling and preservation	Samples were received at the laboratory, appropriately preserved and chilled. All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.
Laboratory QA/QC	
Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.

Frequency of laboratory QC	The laboratory reported a sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except:
	• Laboratory duplicates for PFAS (water matrix) were below the expected rate of 10.00% in the following batches:
	  • EB2308035 (19 samples in batch, 5.26% rate achieved)
	  • EB2308300 (7 samples in batch, 0.0% rate achieved)
	  • EB2311390 (67 samples in batch, 1.49% rate achieved)
	  • EB2311393 (28 samples in batch, 7.14% rate achieved)
	  • EB2312082 (57 samples in batch, 8.77% rate achieved)
	• Laboratory matrix spikes for PFAS (water matrix) were below the expected rate of 5.00% in the following batches:
	  • EB2308035 (19 samples in batch, 0.00% rate achieved)
	  • EB2311390 (67 samples in batch, 1.49% rate achieved)
	  • EB2311393 (28 samples in batch, 3.57% rate achieved)
	  • EB2312082 (57 samples in batch, 3.51% rate achieved)
	
	The reason for insufficient matrix spikes and laboratory duplicates for these batches is due to the way the laboratory assigns the duplicates and matrix spikes and the availability of additional bottles. The laboratory LIMS assigns laboratory QC to samples in the analytical run; however, the runs may not allocate samples to allow for frequency compliance. However, as all other laboratory QC results met control limits this is not expected to impact data quality.

Method Blank	No method blank non-conformances were reported in the batches.
Laboratory duplicate RPDs	Laboratory duplicate relative percentage differences (RPD) were within control limits for all samples except for the following: • EB2308035 – 0207_SD105_230315 – the RPD for PFOS (33%) exceeded the LOR based limit (0-20%).
Laboratory control spike recovery	There were no laboratory control spike recovery outliers except for: - EB2312082 for MeFOSAA where recovery (137%) was greater than the upper control limit (136%). - EB2312082 for 10:2 FTS where recovery (141%) was greater than the upper control limit (133%) - EB2314294 for 10:2 FTS where recovery (138%) was greater than the upper control limit (133%). As recoveries for these outliers are only marginally over the upper control limit (between 1 and 8%), the non-conformances are considered to be of low significance

	and not affect the interpretation of the data. The laboratory noted that the high recoveries were deemed acceptable as associated sample analyte results are less than the limit of reporting.
Matrix spike recovery	There were no matrix spike recovery outliers except for the following: • EB2308035- in sediment sample 0207_SD024_230315 for PFHxS, PFOS, PFPeA, PFNA, PFDoDA, PFTrDA and 10:2 FTS. • EB2311390- in groundwater sample 1435_MW003_230411 for PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFPeA, PFHxA, PFHpA and PFOA • EB2312082- in an anonymous sample for PFPeS, PFOS, PFTrDA and MeFOSA. The results indicate that matrix spike non-conformances are present in two samples (relative to 127 samples analysed) due to matrix interference. These non-conformances are not expected to impact data interpretation as the main compounds of concern (PFHxS and PFOS) are present at elevated concentrations in these samples consistent with the historical data.
Surrogate spike recovery	Surrogate spike recoveries were within control limits.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	LORs were sufficiently low to assess all results against the required guidelines.
Field duplicate RPDs (refer to **Tables C2, C3**, and **C4**)	Field duplicate RPDs were reported within control limits for all primary and duplicate samples except for the sample sets listed below. The higher concentrations were in the duplicate samples. • 0207_MW204_230412 and **0207_QC104_230412** for 6:2 FTS (36%) • 0207_SD102_230315 and **0207_QC101_230315** for PFOS (54%) The magnitude of the differences between the primary and duplicate samples is noted to be relatively small, up to 54% and therefore, the elevated RPDs are not considered to affect data interpretation for use in this report.
Field triplicate RPDs (refer to **Tables C2, C3**, and **C4**)	Field triplicate RPDs were reported within control limits for all primary and triplicate samples except for the sample sets listed below. The higher concentrations were in the primary samples. • **0207_MW167_230412** and 0207_QC203_230412 for PFHxS (36%), PFHpS (64%), PFOS (52%), PFHxA (33%), PFOA (39%) • **0207_MW204_230412** and 0207_QC204_230412 for PFBS (39%), PFPeS (38%), PFHxS (50%), PFHpS (63%), PFOS (50%), PFPeA (44%), PFHxA (49%), PFHpA (53%), PFOA (53%) • **0207_SW024_230315** and 0207_QC202_230315 for PFOS (51%) The differences between the primary and triplicate samples are likely to be due to different extraction methods between laboratories and are within an order of magnitude variation. As the primary sample concentrations are higher than the triplicate concentrations, the elevated RPDs are not considered to affect data interpretation for use in this report.
Other	
Other observations	Two QA/QC issues were identified in the analytical laboratory dataset. The quality assurance sample set for MW005 (Brymaroo) showed differences with the primary sample reporting first-time detections of PFOS and PFHxS, while PFAS were not detected in the duplicate and triplicate samples (QC112 and QC212). An investigation was conducted by ALS and the laboratory identified that it was possible that sample bottles for MW005 and MW269 were switched during the extraction

	process. As there was no volume remaining to re-extract and confirm the results ALS were not able to amend the results and confirm the error. Due to this uncertainty, results for both samples were disregarded from the dataset. Monitoring well MW269 was resampled on 16 August 2023 and no issues were identified with this sample indicating it is suitable for data assessment purposes. MW005 (Brymaroo) was not resampled as duplicate and triplicate results were available. Due to the first-time detection of PFAS in the sample from MW151, the bore was resampled on 16 August 2023 to verify the detection. PFOS was detected in the second sample, verifying the first-time detection. Results for a second groundwater sample analysed at ALS (1435_MW008 [Brymaroo]) could not be reported due to a laboratory error.

Table C1 Rinsate Blank Analytical Results

	Lab Report	EB2308035	EB2311393	EB2311393	EB2311393	EB2311393	EB2312082	EB2312082	EB2312082	EB2312082
	Sample ID	0207_QC300_230315	0207_QC301_230411	0207_QC302_230412	0207_QC303_230413	0207_QC304_230414	0207_QC305_230417	0207_QC306_230418	0207_QC307_230419	0207_QC308_230510
	Sample Date	15/03/2023	11/04/2023	12/04/2023	13/04/2023	14/04/2023	17/04/2023	18/04/2023	19/04/2023	10/05/2023
	Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Analyte	**Units**	**LOR**								
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table C2 Groundwater Duplicate and Triplicate Analytical Results

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	Lab Report Number	EB2311390	EB2311393-AA		RN1390586		EB2311390	EB2311393		RN1390586		EB2311390	EB2311393		RN1390586		EB2311390	EB2311393		RN1390586	
	Field ID	0207_MW167_230412	0207_QC103_230412	RPD	0207_QC203_230412	RPD	0207_MW204_230412	0207_QC104_230412	RPD	0207_QC204_230412	RPD	0207_MW233_230413	0207_QC105_230413	RPD	0207_QC205_230413	RPD	0207_MW189_230413	0207_QC106_230413	RPD	0207_QC206_230413	RPD
	Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	
	Sampled Date	12/04/2023	12/04/2023		12/04/2023		12/04/2023	12/04/2023		12/04/2023		13/04/2023	13/04/2023		13/04/2023		13/04/2023	13/04/2023		13/04/2023	
Chemical Name	**Units**	**EQL**																			
PFBS	µg/L	0.02 : 0.01 (Interlab)	0.77	0.85	10	0.57	30	77.2	69	11	**52**	**39**	0.21	0.19	10	0.14	40	0.02	0.02	0	0.012	50
PFPeS	µg/L	0.02 : 0.01 (Interlab)	0.68	0.79	15	0.52	27	86.7	93.8	8	**59**	**38**	0.14	0.16	13	0.12	15	0.02	0.02	0	0.017	16
PFHxS	µg/L	0.01	3.15	3.64	14	**2.2**	**36**	549	558	2	**330**	**50**	0.77	0.81	5	0.79	3	0.12	0.11	9	0.12	0
PFHpS	µg/L	0.02 : 0.01 (Interlab)	0.39	0.4	3	**0.2**	**64**	40.3	40.2	0	**21**	**63**	<0.02	0.02	0	0.02	0	<0.02	<0.02	0	<0.01	0
PFOS	µg/L	0.01 : 0.02 (Interlab)	5.47	6.01	9	**3.2**	**52**	118	146	21	**71**	**50**	0.26	0.27	4	0.25	4	0.1	0.1	0	0.078	25
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFBA	µg/L	0.1 : 0.05 (Interlab)	0.2	0.3	40	0.21	5	13.1	15	14	10	27	<0.1	<0.1	0	0.053	0	<0.1	<0.1	0	<0.05	0
PFPeA	µg/L	0.02	0.32	0.35	9	0.24	29	21.9	19.8	10	**14**	**44**	0.04	0.04	0	0.031	25	<0.02	<0.02	0	<0.02	0
PFHxA	µg/L	0.02 : 0.01 (Interlab)	1.38	1.44	4	**0.99**	**33**	104	98.4	6	**63**	**49**	0.13	0.14	7	0.1	26	<0.02	<0.02	0	0.012	0
PFHpA	µg/L	0.02 : 0.01 (Interlab)	0.23	0.26	12	0.16	36	18.9	18	5	**11**	**53**	<0.02	0.02	0	0.016	0	<0.02	<0.02	0	<0.01	0
PFOA	µg/L	0.01	0.46	0.46	0	**0.31**	**39**	41.5	39.7	4	**24**	**53**	0.03	0.04	29	0.037	21	<0.01	<0.01	0	<0.01	0
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	0.071	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFTrDA	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.9	<0.83	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.06	0	<0.02	0	<2.25	<2.08	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.06	0	<0.02	0	<2.25	<2.08	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.06	0	<0.02	0	<2.25	<2.08	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
MeFOSE	µg/L	0.05	<0.05	<0.06	0	<0.05	0	<2.25	<2.08	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
EtFOSE	µg/L	0.05	<0.05	<0.06	0	<0.05	0	<2.25	<2.08	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
MFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.9	<0.83	0	0.012	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 FtS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	**1.44**	**2.08**	**36**	1.7	17	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.9	<0.83	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C2 Groundwater Duplicate and Triplicate Analytical Results

		EB2311390	EB2311393		RN1390586		EB2311390	EB2311393-AA		RN1390586		EB2312082-BG	EB2312082-BG		RN1391817		EB2312082-BE	EB2312082-BE		RN1391817		EB2312082-BS
		0207_MW272_230413	0207_QC107_230413	RPD	0207_QC207_230413	RPD	0207_MW275_230414	0207_QC108_230414	RPD	0207_QC208_230414	RPD	0207_MW292_230417	0207_QC109_230417	RPD	0207_QC209_230417	RPD	1435_MW005_230419	0207_QC112_230419	RPD	0207_QC212_230419	RPD	0207_MW114_230420
		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary
		13/04/2023	13/04/2023		13/04/2023		14/04/2023	14/04/2023		14/04/2023		17/04/2023	17/04/2023		17/04/2023		19/04/2023	19/04/2023		19/04/2023		20/04/2023
Chemical Name	**Units**																					
PFBS	µg/L	0.08	0.09	12	0.054	39	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFPeS	µg/L	0.08	0.1	22	0.064	22	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	0.012	0	<0.02	<0.02	0	<0.01	0	<0.02
PFHxS	µg/L	0.42	0.46	9	0.39	7	<0.01	<0.01	0	0.013	26	0.15	0.2	29	0.13	14	0.03	<0.01	100	<0.01	100	<0.01
PFHpS	µg/L	<0.02	0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFOS	µg/L	0.17	0.18	6	0.11	43	<0.01	<0.01	0	<0.02	0	0.13	0.17	27	0.088	39	0.05	<0.01	133	<0.02	86	<0.01
PFDS	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFBA	µg/L	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0	<0.1
PFPeA	µg/L	0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02
PFHxA	µg/L	0.11	0.11	0	0.077	35	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFHpA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFOA	µg/L	0.02	0.02	0	<0.01	67	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0	<0.01
PFNA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFDA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFUnDA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFDoDA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
PFTrDA	µg/L	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02
PFTeDA	µg/L	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05
FOSA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
MeFOSA	µg/L	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05
EtFOSA	µg/L	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05
MeFOSE	µg/L	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05
EtFOSE	µg/L	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05
MFOSAA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
EtFOSAA	µg/L	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02
4:2 FTS	µg/L	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05
6:2 FtS	µg/L	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	0.2	120	0.1	67	<0.05
8:2 FTS	µg/L	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05
10:2 FTS	µg/L	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05

*RPDs have only been consi

**High RPDs are in bold (Acc

***Interlab Duplicates are ma

Table C2 Groundwater Duplicate and Triplicate Analytical Results

		EB2312082-BS		RN1391817		EB2312082-BS	EB2312082-BS		RN1391817	
		0207_QC113_230420	RPD	0207_QC213_230420	RPD	0207_MW118_230420	0207_QC114_230420	RPD	0207_QC214_230420	RPD
		Duplicate		Triplicate		Primary	Duplicate		Triplicate	
		20/04/2023		20/04/2023		20/04/2023	20/04/2023		20/04/2023	
Chemical Name	**Units**									
PFBS	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFPeS	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFHxS	µg/L	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
PFHpS	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFOS	µg/L	<0.01	0	<0.02	0	<0.01	<0.01	0	<0.02	0
PFDS	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFBA	µg/L	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
PFPeA	µg/L	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
PFHxA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFHpA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFOA	µg/L	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
PFNA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFDA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFUnDA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFDoDA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFTrDA	µg/L	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
PFTeDA	µg/L	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
FOSA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
MeFOSA	µg/L	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
EtFOSA	µg/L	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
MeFOSE	µg/L	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
EtFOSE	µg/L	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
MFOSAA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
EtFOSAA	µg/L	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
4:2 FTS	µg/L	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 FtS	µg/L	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 FTS	µg/L	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 FTS	µg/L	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0

*RPDs have only been consi

**High RPDs are in bold (Acc

***Interlab Duplicates are ma

Table C3 Surface Water Duplicate and Triplicate Analytical Results

Lab Report Number	EB2308035	EB2308035	RPD	RN1387358	RPD	EB2308035	EB2308035	RPD	RN1387358	RPD	EB2312082-BF	EB2312082-BF	RPD	RN1391817	RPD
Field ID	0207_SW013_230315	0207_QC100_230315		0207_QC200_230315		0207_SW024_230315	0207_QC102_230315		0207_QC202_230315		0207_SW056_230418	0207_QC110_230418		0207_QC210_230418	
Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	
Sampled Date	15/03/2023	15/03/2023		15/03/2023		15/03/2023	15/03/2023		15/03/2023		18/04/2023	18/04/2023		18/04/2023	

Chemical Name	Units	EQL														
PFBS	µg/L	0.02 : 0.01 (Interlab)	0.04	0.04	0	0.038	5	<0.04	<0.02	0	0.018	0	<0.02	<0.02	0	<0.01	0
PFPeS	µg/L	0.02 : 0.01 (Interlab)	<0.02	0.02	0	0.023	14	0.03	0.02	40	0.026	14	<0.02	<0.02	0	<0.01	0
PFHxS	µg/L	0.01	0.19	0.17	11	0.15	24	0.36	0.29	22	0.27	29	<0.01	<0.01	0	<0.01	0
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	0.04	0.04	0	0.03	29	<0.02	<0.02	0	<0.01	0
PFOS	µg/L	0.01 : 0.02 (Interlab)	0.6	0.5	18	0.48	22	2.87	2.69	6	**1.7**	**51**	<0.01	<0.01	0	<0.02	0
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
PFPeA	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
PFHxA	µg/L	0.02 : 0.01 (Interlab)	0.08	0.06	29	0.058	32	0.05	0.05	0	0.046	8	<0.02	<0.02	0	<0.01	0
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	0.012	0	<0.02	<0.02	0	<0.01	0
PFOA	µg/L	0.01	0.01	<0.01	0	0.011	10	0.05	0.05	0	0.045	11	<0.01	<0.01	0	<0.01	0
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
PFTrDA	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
MeFOSE	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
EtFOSE	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
MFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 FtS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C4 Sediment Duplicate and Triplicate Analytical Results

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Lab Report Number	EB2308035	EB2308035	RPD	RN1387358	RPD	EB2308035	EB2308035	RPD	RN1387358	RPD	EB2312082-BF	EB2312082-BF	RPD	RN1391817	RPD
Field ID	0207_SD102_230315	0207_QC101_230315		0207_QC201_230315		0207_SD024_230315	0207_QC103_230315		0207_QC203_230315		0207_SD018_230418	0207_QC111_230418		0207_QC211_230418	
Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	
Sampled Date	15/03/2023	15/03/2023		15/03/2023		15/03/2023	15/03/2023		15/03/2023		18/04/2023	18/04/2023		18/04/2023	
Chemical Name	**Units**	**EQL**													
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0006	<0.0006	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0006	<0.0006	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0006	<0.0006	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0006	<0.0006	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.001	0.0008	22	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.002	0	<0.001	<0.001	0	<0.002	0	<0.001	<0.001	0	<0.002	0
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0008	<0.0002	120	<0.001	0	0.0004	<0.0002	67	<0.001	0	0.0004	0.0006	40	<0.001	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	0.0004	<0.0002	67	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0009	0.0009	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0007	0.0006	15	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	0.0002	0	<0.001	0	0.0011	<0.0002	138	<0.001	10	<0.0002	<0.0002	0	<0.001	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0007	0.0005	33	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0006	<0.0006	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	0.0004	<0.0002	67	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.002 (Interlab)	**0.0083**	**0.0144**	**54**	0.011	28	0.0678	0.0688	1	0.073	7	**0.0053**	**0.0078**	**38**	0.0065	20
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0002	0.0004	67	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	0.0006	0.0007	15	<0.001	0	0.0079	0.0076	4	0.0076	4	<0.0002	<0.0002	0	<0.001	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix D

Chain of Custody Forms

Appendix D Chain of Custody Forms

AECOM

Chain of Custody

COC Page 1 of 3

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab. Name:

Lab. Address:

Contact Name:

Lab. Ref:

Tel:

Fax:

Preliminary Report by:

Final Report by:

Lab Quote No: SY/139/19

Sampled By: JP **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Environmental Division Brisbane

Work Order Reference

EB2308035

Telephone : +61-7-3243 7222

Lab. ID	Sample ID	Sampling Date	Matrix			Preservation				Container	Analysis Request: EP231X (PFAS Std 28)	Analysis Request: HOLD
			soil	water	sed	filt'ed	acid	ice	other	(No. & type)		
1	0207_SW024_230315	15/03/2023		X						2 X P	X	
SNR	0207_SW025_230315	15/03/2023		X						2 X P	X	
3	0207_SW027_230315	15/03/2023		X						2 X P	X	
4	0207_SW026_230315	15/03/2023		X						2 X P	X	
5	0207_SW009_230315	15/03/2023		X						2 X P	X	
6	0207_SW021_230315	15/03/2023		X						2 X P	X	
7	0207_SW063_230315	15/03/2023		X						2 X P	X	
8	0207_SW019_230315	15/03/2023		X						2 X P	X	
9	0207_SW013_230315	15/03/2023		X						2 X P	X	
10	0207_SW012_230315	15/03/2023		X						2 X P	X	
11	0207_SW011_230315	15/03/2023		X						2 X P	X	
12	0207_SW010_230315	15/03/2023		X						2 X P	X	
13	0207_SW004_230315	15/03/2023		X						2 X P	X	
14	0207_SW028_230315	15/03/2023		X						2 X P	X	

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted]	Signed: [redacted]	Date: 15/3/23	Relinquished by:	Signed:	Date:		
Received by: [redacted]	Signed: [redacted]	Date:	Received by: [redacted]	16/3/23 1010	Signed:	Date:	

AECOM

Chain of Custody

AECOM Australia Pty Ltd
Level 8, 540 Wickham Street
Fortitude Valley, QLD, 4006
PO Box 1307 Fortitude Valley QLD 4006

Email reports to: [redacted]

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: JP **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Lab. ID	Sample ID	Sampling Date	Matrix			Preservation				Container (No. & type)	Analysis Request: EP231X (PFAS Std 28)	Analysis Request: HOLD	Notes
			soil	water	sed	filt'ed	acid	ice	other				
SNR	0207_SD038_230315	15/03/2023			X					1 X P	X		
16	0207_SD070_230315	15/03/2023			X					1 X P	X		
17	0207_SD024_230315	15/03/2023			X					1 X P	X		
18	0207_SD010_230315	15/03/2023			X					1 X P	X		
19	0207_SD011_230315	15/03/2023			X					1 X P	X		
20	0207_SD015_230315	15/03/2023			X					1 X P	X		
21	0207_SD013_230315	15/03/2023			X					1 X P	X		
22	0207_SD025_230315	15/03/2023			X					1 X P	X		
23	0207_SD107_230315	15/03/2023			X					1 X P	X		
24	0207_SD016_230315	15/03/2023			X					1 X P	X		
25	0207_SD102_230315	15/03/2023			X					1 X P	X		
26	0207_SD105_230315	15/03/2023			X					1 X P	X		
27	0207_SD036_230315	15/03/2023			X					1 X P	X		
28	0207_SD037_230315	15/03/2023			X					1 X P	X		

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted]	Signed: [redacted]	Date: 15/3/23	Relinquished by:	Signed:	Date:		
Received by: [redacted]	Signed: [redacted]	Date:	Received by: [redacted]	16/3/23 10:0	Signed:	Date:	

AECOM

Chain of Custody

COC Page 3 of 3

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: JP **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Lab. ID	Sample ID	Sampling Date	Matrix			Preservation				Container	Analysis Request										Notes
			soil	water	sed	filt'ed	acid	ice	other	(No. & type)	EP231X (PFAS Std 28)									HOLD	
29	0207_QC100_230315	15/03/2023		X						2 X P	X										
30	0207_QC101_230315	15/03/2023			X					1 X P	X										
31	0207_QC102_230315	15/03/2023		X						2X P	X										
32	0207_QC103_230315	15/03/2023			X					1 X P	X										
33	0207_QC300_230315	15/03/2023		X						2 X P	X										

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted] Signed: [redacted] Date: 15/3/23

Received by: Signed: Date:

Relinquished by: Signed: Date:

Received by: [redacted] 16/3/23 1010 Signed: Date:

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab. Name:

Lab. Address:

Contact Name:

Lab. Ref:

Tel:

Fax:

Preliminary Report by:

Final Report by:

Lab Quote No: SY/139/19

Sampled By: JP **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_SW025_230315	15/03/2023		X						2 X P	X		

Environmental Division Brisbane

Work Order Reference

EB2308300

Telephone : +61-7-3243 7222

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Esky ID:

Relinquished: [redacted]	Signed: [redacted]	Date: 20/3/23	Relinquished by:	Signed:	Date:
Received by: [redacted] 0975	Signed:	Date: 20/3/23	Received by:	Signed:	Date:

AECOM

Chain of Custody

COC Page 1 of 6

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address: 2 Byth St
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No. EB2113-19

Sampled B [redacted] **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr (5 days))	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manage [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: fil'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
1	0207_MW008_230411	11.04.23		X						2x2oz1	X		
2	0207_MW003_230411												
3	0207_MW004_230411												
4	0207_MW006_230411												
5	0207_MW004_230411												
6	0207_MW010_230411												
7	0207_MW007_230411												
8	0207_MW011_230411												
9	0207_MW001_230411												
10	0207_MW002_230411												
11	0207_MW252_230411												
12	0207_MW249_230411												
13	0207_MW241_230411												
14	0207_MW235_230411												

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Relinquished by [redacted] Signed: Date:

Received by Signed: Date: 7/04 1500

Relinquished by: Signed:

Received by: Signed:

Environmental Division
Brisbane
Work Order Reference
EB2311390

Telephone : +61-7-3243 7222

[redacted]

Project Name: QLD_0207_PR_SOUTH

ABCOMM Work Order

Project Number: 0207

Please report to ESdat digital

Quote No.

Turnaround Requirements (TAT)

Standard TAT (5 days)

Do samples contain radioactivity?

Are samples taken from a Regulated Environment?

Sample Disposal (Samples will be returned as per NEPM 2013)

Special Handling / Dangerous Goods

Send Report To: ESdat

Project Manager:

Analysis Required

Sample ID	Sampling Date	Matrix	Preservation	Container	
		Soil	Water		
0207_MW01_20240412	12/04/24	X		2x250mL	X
0207_MW02_20240412	12/04/24				
0207_MW03_20240412					
0207_MW04_20240412					
0207_MW05_20240412					
0207_MW06_20240412					
0207_MW07_20240412					
0207_MW08_20240412					
0207_MW09_20240412					
0207_MW10_20240412					
0207_MW11_20240412					
0207_MW12_20240412					
0207_MW13_20240412					

[redacted]

Sampled By:

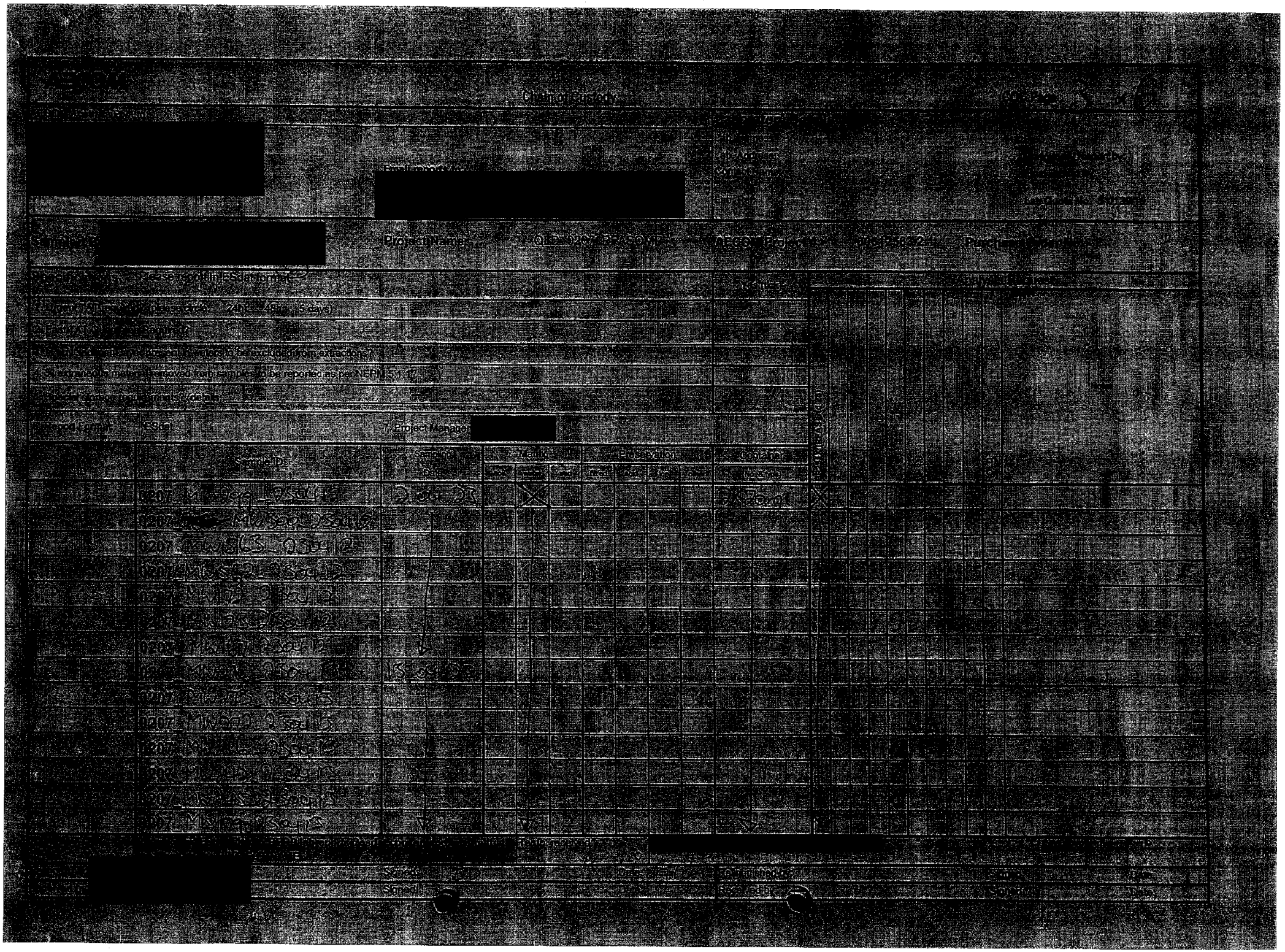
Signature:

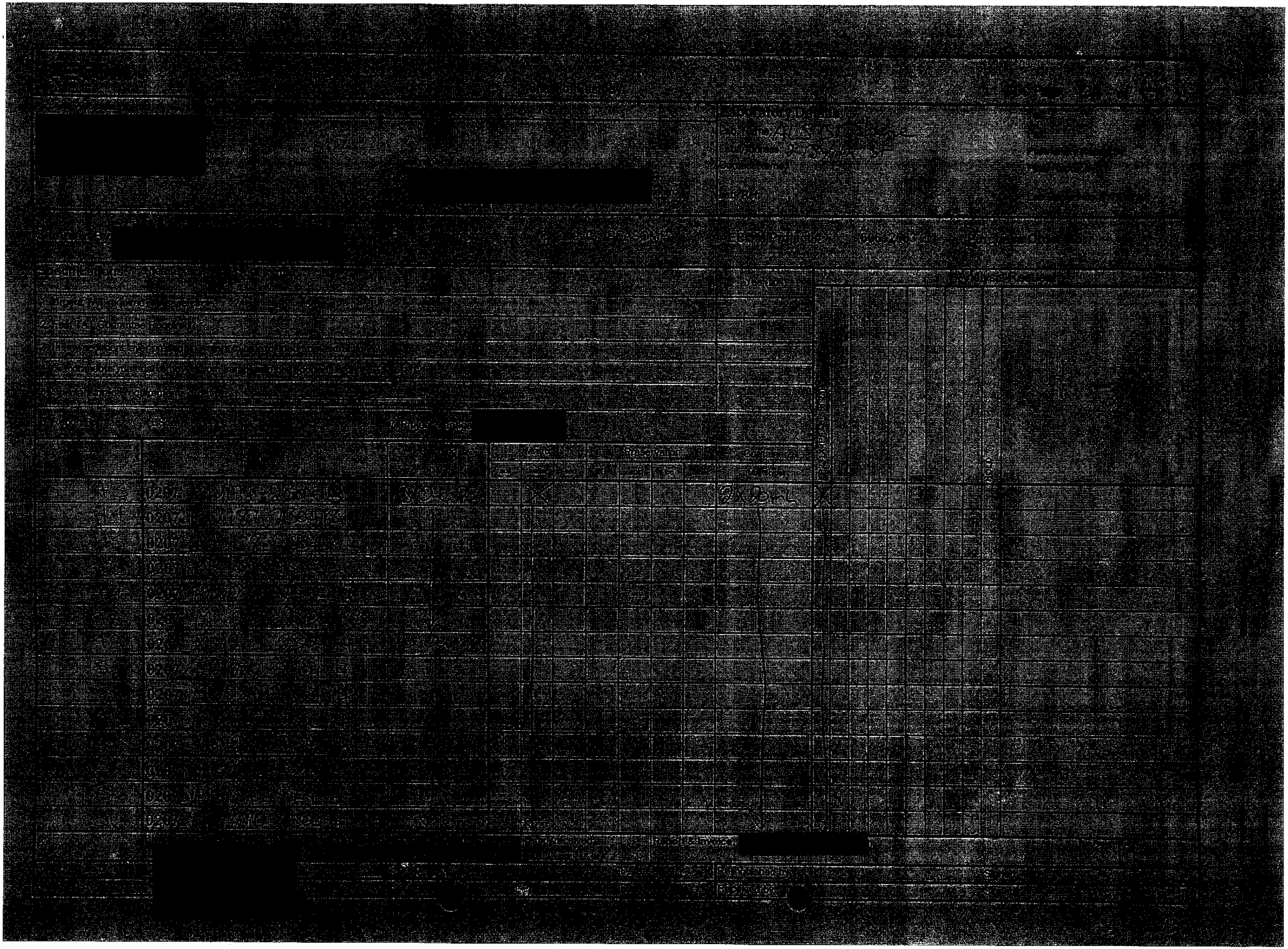
Relinquished By:

Received By:

Date:

Time:





AECOM

Chain of Custody

COC Page 5 of 6

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted]

Project Name: QLD_0207_PFASOMP

AECOM Project #: 60612563.2.1

Purchase Order No:

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details:)	

6. Report Format: ESdat

7. Project Manager: [redacted]

Analysis Request

Lab ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filtered	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
57	0207_MW075_230414	14.04.23		X				X		9x2mL	X		
58	0207_MW257_230414	14.04.23		↓				↓		↓	↓		
~~59~~	0207_MW038_230413	13.04.23		↓				↓		↓	↓		AS put on separate COC
~~60~~	0207_QC103_230412	12.04.23		↓				↓		↓	↓		
~~61~~	0207_QC104_230412	12.04.23		↓				↓		↓	↓		
~~62~~	0207_QC105_230413	13.04.23		↓				↓		↓	↓		
~~63~~	0207_QC106_230413	13.04.23		↓				↓		↓	↓		
~~64~~	0207_QC107_230413	13.04.23		↓				↓		↓	↓		
~~65~~	0207_QC108_230414	14.04.23		↓				↓		↓	↓		
~~66~~	0207_QC203_230412	12.04.23		↓				↓		↓	↓		AS FWD TO NMI Sydney.
~~67~~	0207_QC204_230412	12.04.23		↓				↓		↓	↓		
~~68~~	0207_QC205_230413	13.04.23		↓				↓		↓	↓		
~~69~~	0207_QC206_230413	13.04.23		↓				↓		↓	↓		
~~70~~	0207_QC207_230413	13.04.23		↓				↓		↓	↓		

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME.

Temp. received: °C

Report & Invoice [redacted]

Relinquished by: Signed: [redacted] Date: 17/04

Received by: Signed: [redacted] Date: 1500

Relinquished by: Signed: Date:

Received by: Signed: Date:

Environmental Division
Brisbane
Work Order Reference
EB2311393

Telephone : - 61-7-3243 7222

AECOM

Chain of Custody

COC Page

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary
Final Report
Lab Quote

Sampled By [redacted] **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563.2.1 **Purchase Order No.**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
~~54~~	0207_MW275_230414	14.04.23		X				X		9x20mL	X		
~~55~~	0207_MW257_230414	14.04.23		↓				↓		↓	↓		
1 ~~56~~	0207_MW038_230413	13.04.23		↓				↓		↓	↓		PS Put on seperate COA + COC
2 ~~66~~	0207_QC103_230412	12.04.23		↓				↓		↓	↓		
3 ~~67~~	0207_QC104_230412	12.04.23		↓				↓		↓	↓		
4 ~~67~~	0207_QC105_230413	13.04.23		↓				↓		↓	↓		
5 ~~68~~	0207_QC106_230413	13.04.23		↓				↓		↓	↓		
6 ~~69~~	0207_QC107_230413	13.04.23		↓				↓		↓	↓		
7 ~~65~~	0207_QC108_230414	14.04.23		↓				↓		↓	↓		
→ ~~66~~	0207_QC203_230412	12.04.23		↓				↓		↓	↓		PS FWD to NMI Sydney.
→ ~~67~~	0207_QC204_230412	12.04.23		↓				↓		↓	↓		↓
→ ~~68~~	0207_QC205_230413	13.04.23		↓				↓		↓	↓		↓
→ ~~69~~	0207_QC206_230413	13.04.23		↓				↓		↓	↓		↓
→ ~~70~~	0207_QC207_230413	13.04.23		↓				↓		↓	↓		↓

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & Invoice [redacted]

Lab Report No. | Easy ID

Relinquished by:	Signed: [redacted]	Date: 17/04	Relinquished by:	Signed:	Date:
Received by:	Signed: [redacted]	Date: 1500	Received by:	Signed:	Date:

AECOM

Chain of Custody

COC Page 6 of 6

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab Name: ALS Brisbane

Lab Address: 2 Byth St

Contact Name:

Lab Ref:

Tat:

Fax:

Preliminary Report by:

Final Report by:

Lab Quote No: SY130719

Sampled By: [redacted]

Project Name: QLD_0207_PFASOMP

AECOM Project #: 60612563.2.1

Purchase Order No:

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Strict TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. Organic material removed from samples to be reported as per NEPM 6.1.17	
5. Cooling or storage requirements? (details)	
6. Report Format: ESdat	
7. Project Manager: [redacted]	

Analysis Required

PFAS (PFAS 5 and 20)

TOP

Notes

Lab ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservative(s): HCl	H2SO4	Ice	other	Container (No./type)	PFAS (PFAS 5 and 20)	TOP	Notes
⇒ 1	0207_QUES_SOIL4	4.9.23	X					X		2x Bowl			PFAS FUEDSOURCE SYD
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												

Report to: [redacted] Temp received: Report & Invoice: [redacted]

Relinquished by: Signed: [redacted] Date: 7/9/23

Received by: Signed: [redacted] Date: 7/9/23

Relinquished by: Signed: Date:

Received by: Signed: Date:

AECOM

Chain of Custody

COC Page 1 of 5

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address: 2 Byth St
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filtered	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
1	0207_MW293_230417	17.04.23		X				X		2x 20mL	X		
2	0207_MW056_230417												
3	0207_MW292_230417												
4	0207_MW071_230417												
5	0207_MW019_230417												
6	0207_MW147_230417												
7	0207_MW157_230417												
8	0207_MW032_230417												
9	0207_SW056_230418	230418		X						2X			
10	0207_SD018_230418				X					1X			
11	0207_SW057_230418			X						2X			
12	0207_SD017_230418				X					1X			
13	0207_MW003_230418			X						2X 20ml			
14	0207_MW283_230418			X						2X 20ml			

SCANNED

Environmental Division
Brisbane
Work Order Reference
EB2312082

Telephone : +61-7-3243 7222

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No. | Esky ID

Relinquished by: [redacted]	Signed:	Date:	Relinquished by:	Signed:	Date:
Received by:	Signed:	Date:	Received by:	Signed:	Date:

21/4/23 1150

AECOM

Chain of Custody

COC Page 2 of 5

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab. Name:

Lab. Address:

Contact Name:

Lab. Ref:

Tel:

Fax:

Preliminary Report by:

Final Report by:

Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
15	0207_MW295_230418	18.04.23		X				X		2x20mL	X		
16	0207_MW288_230418												
SNR 17	0207_MW289_230418												
18	0207_MW268_230418												
19	0207_MW294_230418												
20	0207_MW269_230418												
21	[redacted]1435_MW005_230419	19.04.23		X						2x20mL			
22	0207_SW066_230419			X						2x			
23	0207_SD022_230419				X					1x			
24	0207_SW043_230419			X						2x			
25	0207_SD007_230419				X					1x			
SNR 26	0207_SW065_230419			X						2x			
26 27	0207_SD166_230419				X					1x			
27 28	0207_SW040_230419			X						2x			

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted]		Signed:	Date:	Relinquished by:	Signed: Date:
Received by: [redacted]	21/4/23 1150	Signed:	Date:	Received by:	Signed: Date:

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 5/1 Burma Road Pooraka SA 5095 Ph: 08 8162 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 49 Callemondah Drive Gladstone QLD 4680 Ph: 07 4972 7944 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

MELBOURNE 9 4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

MUDGEE 5/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

ORANGE 4 10 Glenry Place North Orange NSW 2641 Ph: 02 4422 2063 E: orange@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

WOLLONGONG 1/16-21 Ralph Black Drive, North Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE:		Custody Seal Intact?	Yes No N/A
PROJECT: 60602563-2.1 **PROJECT NO.:**	**ALS QUOTE NO.:**	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: **PURCHASE ORDER NO.:**	**COUNTRY OF ORIGIN:**	Random Sample Temperature on Receipt:	°C
PROJECT MANA [redacted] **CONTACT PH:**		Other comment:	
SAMPLER: [redacted] **SAMPLER MOBILE:** [redacted]	**RELINQUISHED BY:**	**RECEIVED** [redacted]	**RELINQUISHED BY:** / **RECEIVED BY:**
COC Emailed to [redacted] **EDD FORMAT (or default):**			
Email Reports to (will default to PM if no other addresses are listed):	DATE/TIME:	DATE/TIME: 21/4/23 1150	DATE/TIME: / DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):			

COC SEQUENCE NUMBER (Circle)
COC: 1 2 (3) 4 5 6 7
OF: 1 2 3 4 (5) 6 7

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Please refer to Page 1 if any above info missing.

ALS USE ONLY	SAMPLE DETAILS (MATRIX: Solid(S) Water(W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price). Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	EP231X (PFAS Std 20)								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28 29	0207_SD042_230419	19.04.23	Soil		1	X								
29 30	0207_MW209_230419		W		2									
30 31	0207_MW134_230419													
31 32	0207_MW091_230419													
32 33	1435_MW082_230419													
33 34	0207_QC109_230417	17.04.23	W		2									
34 35	0207_QC110_230418	18.04.23	W		2									
35 36	0207_QC111_230418	18.04.23	Soil		1									
36 37	1435 ~~0207~~_QC112_230419	19.04.23	W		2									
37 38	0207_QC113_230420	20.04.23	W		2									
38 39	0207_QC114_230420	20.04.23	W											
39 40	0207_QC305_230417	17.04.23	W											
				TOTAL										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 5/1 Burma Road Pooraka SA 5095 Ph: 08 8162 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 48 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 7944 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

WOLLONGONG 1/19-21 Rich Street Drive Nth Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT:	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (**List due date**):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE:		☐ Non Standard or urgent TAT (**List due date**):	Custody Seal Intact? Yes No N/A
PROJECT: **PROJECT NO.:**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: **PURCHASE ORDER NO.:**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: **CONTACT PH:**		OF: 1 2 3 4 (5) 6 7	Other comment:

SAMPLER: **SAMPLER MOBILE:**	**RELINQUISHED BY:**	**RECEIVED BY** [redacted]	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO) **EDD FORMAT (or default):**				
Email Reports to (will default to PM if no other addresses are listed):	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	EP231X (PFAS STD 20)								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
40 41	0207_QC306_230418	18.04.23	W		2	X								~~PIS FWD to JVMI SYD~~
41 42	0207_QC307_230419	19.04.23	W		2									
43	0207_QC209_230417	17.04.23	W		2									PIS FWD to JVMI SYD
44	0207_QC210_230418	18.04.23	W		2									
45	0207_QC211_230418	18.04.23	Sed		1									
46	1435_QC12_230419	19.04.23	W		2									
47	0207_QC213_230420	20.04.23	W		2									
48	0207_QC214_230420	20.04.23	W		2									
43 49	0207_MW149_230420													
44 50	0207_MW113_230420													
45 51	0207_MW118_230420													
46 52	0207_MW114_230420													
					TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

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GLADSTONE 45 Callemondah Drive Clinton QLD 4680 Ph: 07 4972 9443 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

MUDGEE 1/20 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

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ORANGE 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

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WOLLONGONG 1/19-21 Rain Black Drive, NP, Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: [redacted]	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE:		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes / No / N/A
PROJECT:	PROJECT NO.:	ALS QUOTE NO.:	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN:	Random Sample Temperature on Receipt: °C
PROJECT MANAGER:	CONTACT PH:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER:	SAMPLER MOBILE:	RELINQUISHED BY:	RECEIVED [redacted]	RELINQUISHED BY: / RECEIVED BY:
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):			
Email Reports to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME: 21/4/23 1150	DATE/TIME: / DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES									Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47 S3	0207_MW157_230420	20.04.23												
48 S4	0207_MW122_230420	20.04.23												
42	0207_MW167_230418	18.4.23		Extra sample	2									
				BC 22.4.23										
				TOTAL										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: AECOM **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW270_230510	10/05/2023		X				X		2 x 125 ml	X		
	0207_MW271_230510	10/05/2023		X				X		2 x 125 ml	X		
	0207_QC308_230510	10/05/2023		X				X		2 x 125 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2314294

Telephone : +61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice [redacted]

Lab Report No. | Esky ID

Relinquished by: [redacted] Signed: Date: 12/5/23

Received by: Signed: 11:13 Date:

Relinquished by: Signed: Date:

Received by: Signed: Date:

LAB0000 7830

AECOM6/230321

AECOM — Chain of Custody For NMI

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by: Due 30/3/23
Final Report by: 28/3
Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP **AECOM Project #:** 60612563 2.1 **Purchase Order No:**

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: James Peachey

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
N23/005435	0207_QC200_230315	15/03/2023		X						4 X P	X		To be forwarded to NMI
N23/005436	0207_QC201_230315	15/03/2023			X					1 X P	X		To be forwarded to NMI
N23/005437	0207_QC202_230315	15/03/2023		X						4 X P	X		To be forwarded to NMI
N23/005438	0207_QC203_230315	15/03/2023			X					1 X P	X		To be forwarded to NMI

RECEIVED
21 MAR 2023
BY: AO 1600 C

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted] 20/03/23 Signed: Date:

Received by: [redacted] Signed: Date:

Relinquished by: Signed: Date:

Received by: Signed: Date:

AECOQ6/230419 27/4
Due 4/5/23
MW

AECOM

Chain of Custody

COC Page 5 of 6

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted]

Project Name: QLD_0207_PFASOMP

AECOM Project #: 60612563 2.1

Purchase Order No:

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat

7. Project Manager [redacted]

RECEIVED
19 APR 2023
BY: AO 1510 C

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: fil'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Analysis Request
~~57~~	0207_MW275_230414	14.04.23		X				X		9x20mL	X		
~~58~~	0207_MW257_230414	14.04.23		↓				↓		↓	↓		
1 ~~59~~	0207_MW038_230413	13.04.23		↓				↓		↓	↓		PFAS Put on seperate COA +cd
2 ~~60~~	0207_QC103_230412	12.04.23		↓				↓		↓	↓		
3 ~~61~~	0207_QC104_230412	12.04.23		↓				↓		↓	↓		
4 ~~62~~	0207_QC105_230413	13.04.23		↓				↓		↓	↓		
5 ~~63~~	0207_QC106_230413	13.04.23		↓				↓		↓	↓		
6 ~~64~~	0207_QC107_230413	13.04.23		↓				↓		↓	↓		
7 ~~65~~	0207_QC108_230414	14.04.23		↓				↓		↓	↓		
→ ~~66~~	0207_QC203_230412	12.04.23		↓				↓		↓	↓		N23/007674 AS FWD to NMI Sydney.
→ ~~67~~	0207_QC204_230412	12.04.23		↓				↓		↓	↓		N23/007675
→ ~~68~~	0207_QC205_230413	13.04.23		↓				↓		↓	↓		N23/007676
→ ~~69~~	0207_QC206_230413	13.04.23		↓				↓		↓	↓		N23/007677
→ ~~70~~	0207_QC207_230413	13.04.23		↓				↓		↓	↓		N23/007678

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Ecky ID:

Relinquished by: Signed: [redacted] Date: 17/04

Received by: Signed: [redacted] Date: 1500

Relinquished by: [redacted] 18/4/23 Signed: Date:

Received by: Signed: Date:

AECOM

Chain of Custody

COC Page 6 of 6

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address: 2 Byth St
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted] Project Name: QLD_0207_PFASOMP AECOM Project #: 60612563 2.1 Purchase Order No:

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: fil'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
7	0207_QC208_230414	14.04.23		X				X		2x20mL	N23/007679		PIS FWD to NMI SYD
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												
	0207_												

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice [redacted]

Lab Report No: Easy ID:

Relinquished by: Signed: [redacted] Date: 17/04 1500

Received by: Signed: [redacted] Date:

Relinquished by: [redacted] 18/4/23 Signed: Date:

Received by: [redacted] Signed: Date:

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 31 Burma Road Pooraka SA 5095 Ph: 08 8162 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

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WOLLONGONG 1/10-21 Rach Black Drive Nth Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT:	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE:		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: **PROJECT NO.:**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: **PURCHASE ORDER NO.:**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: **CONTACT PH:**		OF: 1 2 3 4 (5) 6 7	Other comment: 1
SAMPLER: **SAMPLER MOBILE:**	**RELINQUISHED BY:**	**RECE[redacted]**	**RELINQUISHED [redacted] ED BY:**
COC Emailed to ALS? (YES / NO) **EDD FORMAT (or default):**			
Email Reports to (will default to PM if no other addresses are listed):	DATE/TIME:	DATE/TIME: 26/4/23 1150	DATE/TIME: 26/4/23 11:20 DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	EP231X (PFAS STD 20)							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
40 41	0207_QC36_230418	18.04.23	W		2	X							~~HS FWD to IANZI SYD~~
41 42	0207_QC307_230419	19.04.23	W		2								
43	0207_QC209230417	17.04.23	W	N23/008167	2								PIS FWD to IANZI SYD
44	0207_QC210_230418	18.04.23	W	N23/008168	2								
45	0207_QC211_230418	18.04.23	Sed	N23/008169	1								
46	1435_QC12_230419	19.04.23	W	N23/008170	2								
47	0207_QC213_230420	20.04.23	W	N23/008171	2								
48	0207_QC214_230420	20.04.23	W	N23/008172	2								
49	0207_MW149_230420												
50	0207_MW113_230420												
51	0207_MW118_230420												
52	0207_MW114_230420												
					TOTAL								

AECOOG | 230427 | 1 AO

Due: 4/5/23

0207_QC214-230420

RECEIVED 27 APR 2023

BY: R 11:45

36K25000123

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8162 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 48 Callemondah Drive Gladstone QLD 4680 Ph: 07 4972 7944 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Stewart Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: temples.environmental@alsglobal.com

WOLLONGONG 1/19-21 Kayla Black Drive Nth Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: [redacted]	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (**List due date**):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE:		☐ Non Standard or urgent TAT (**List due date**):	**Custody Seal Intact?** Yes / No / N/A
PROJEC **CT NO.:**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	**Free ice / frozen ice bricks present upon receipt?** Yes / No / N/A
ORDER **ER NO.:**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	**Random Sample Temperature on Receipt:** °C
PROJECT MANAGER:	**CONTACT PH:**	OF: 1 2 3 4 5 6 7	**Other comment:** [redacted]

SAMPLER:	**SAMPLER MOBILE:**	**RELINQUISHED BY:**	**RECEIVED** [redacted]	**RELINQUISHED BY** [redacted] **CEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**			
Email Reports to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME: 21/4/23 1150	DATE/TIME: 20/4/23 11:25 DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL BOTTLES**									Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
S3	0207_MW157_230420	20.04.23												
S4	0207_MW122_230420	20.04.23												
				TOTAL										

RECEIVED
27 APR 2023
BY: .....

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted]
Mobile Number:

Project Name: QLD_0207_PFASOMP_23
AECOM Project #: 60612563 2.1
Purchase Order No: 60612563 2.1

Specifications: Please report in ESdat format	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat
7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD
1	0207_MW151_230816	16/08/2023		X				X		2 x 20 ml	X	

Notes

Environmental Division
Brisbane
Work Order Reference
EB2325318

Telephone : +61-7-3243 7222

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No | Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: 17/08/2023	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed: [redacted]	Date: 17/8/23 1435	Received by:	Signed:	Date:

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details

Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted]

Mobile Number:

Project Name: QLD_0207_PFASOMP_23

AECOM Project #: 60612563 2.1

Purchase Order No: 60612563 2.1

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat

7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
\	0207_MW269_230816	16/08/2023		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2325321

Telephone : +61-7-3243 7222

Comments: **Please send ESdat files to DERP labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: ℃

Report & Invoice: [redacted]

Lab Report No | Esky ID

Relinquished by [redacted] Signed: [redacted] Date: 17/8/23

Received by: [redacted] Signed: [redacted] Date: 17/8/23

Relinquished by: Signed: Date:

Received by: Signed: Date:

1435

Appendix E

Laboratory Analytical Certificates and QA/QC Reports

Appendix E Laboratory Analytical Certificates and QA/QC Reports

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2308035**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP	Page	: 1 of 4
Order number	: 60612563 2.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 16-Mar-2023 10:10	Issue Date	: 17-Mar-2023
Client Requested Due Date	: 24-Mar-2023	Scheduled Reporting Date	: **24-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 5.5°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 32 / 32

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised that samples "0207_SW025_230315" and "0207_SD038_230315" were not received at the laboratory (denoted SNR on the scanned COC).**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- **Samples "0207_QC200_230315", "0207_QC201_230315", "0207_QC202_230315" and "0207_QC203_230315" has been forwarded to NMI, as requested. Please note that this will incur a freight forwarding fee.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2308035-016	15-Mar-2023 00:00	0207_SD070_230315	✓	✓
EB2308035-017	15-Mar-2023 00:00	0207_SD024_230315	✓	✓
EB2308035-018	15-Mar-2023 00:00	0207_SD010_230315	✓	✓
EB2308035-019	15-Mar-2023 00:00	0207_SD011_230315	✓	✓
EB2308035-020	15-Mar-2023 00:00	0207_SD015_230315	✓	✓
EB2308035-021	15-Mar-2023 00:00	0207_SD013_230315	✓	✓
EB2308035-022	15-Mar-2023 00:00	0207_SD025_230315	✓	✓
EB2308035-023	15-Mar-2023 00:00	0207_SD107_230315	✓	✓
EB2308035-024	15-Mar-2023 00:00	0207_SD016_230315	✓	✓
EB2308035-025	15-Mar-2023 00:00	0207_SD102_230315	✓	✓
EB2308035-026	15-Mar-2023 00:00	0207_SD105_230315	✓	✓
EB2308035-027	15-Mar-2023 00:00	0207_SD036_230315	✓	✓
EB2308035-028	15-Mar-2023 00:00	0207_SD037_230315	✓	✓
EB2308035-030	15-Mar-2023 00:00	0207_QC101_230315	✓	✓
EB2308035-032	15-Mar-2023 00:00	0207_QC103_230315	✓	✓
EB2308035-034	15-Mar-2023 00:00	0207_SD038_230315	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2308035-001	15-Mar-2023 00:00	0207_SW024_230315	✓
EB2308035-003	15-Mar-2023 00:00	0207_SW027_230315	✓
EB2308035-004	15-Mar-2023 00:00	0207_SW026_230315	✓
EB2308035-005	15-Mar-2023 00:00	0207_SW009_230315	✓
EB2308035-006	15-Mar-2023 00:00	0207_SW021_230315	✓
EB2308035-007	15-Mar-2023 00:00	0207_SW063_230315	✓
EB2308035-008	15-Mar-2023 00:00	0207_SW019_230315	✓

			WATER - EP231X PFAS - Full Suite (28 analytes)
EB2308035-009	15-Mar-2023 00:00	0207_SW013_230315	✓
EB2308035-010	15-Mar-2023 00:00	0207_SW012_230315	✓
EB2308035-011	15-Mar-2023 00:00	0207_SW011_230315	✓
EB2308035-012	15-Mar-2023 00:00	0207_SW010_230315	✓
EB2308035-013	15-Mar-2023 00:00	0207_SW004_230315	✓
EB2308035-014	15-Mar-2023 00:00	0207_SW028_230315	✓
EB2308035-029	15-Mar-2023 00:00	0207_QC100_230315	✓
EB2308035-031	15-Mar-2023 00:00	0207_QC102_230315	✓
EB2308035-033	15-Mar-2023 00:00	0207_QC300_230315	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

Esdat reports

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2308035**	Page	: 1 of 19
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 16-Mar-2023 10:10
Order number	: 60612563 2.1	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: ----	Issue Date	: 18-May-2023 11:30
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 32		
No. of samples analysed	: 32		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: Sample '0207_SD024_230315' shows poor matrix spike recovery due to matrix interference. Confirmed by re-extraction and re-analysis.
- EP231X PFAS: The LORs for particular analytes have been raised for sample '0207_SD070_230315' and '0207_SD024_230315' due to matrix interference.
- EP231X PFAS: Sample '0207_SD105_230315' shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231X PFAS: Sample '0207_SD025_230315' required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Whole bottle extraction was not possible for particular samples. Samples required dilution prior to extraction due to matrix interference (high sediment content). LOR values have been adjusted accordingly. The LOR values of particular analytes have been further raised due to matrix interferences.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0207_SD070_230315	0207_SD024_230315	0207_SD010_230315	0207_SD011_230315	0207_SD015_230315
			Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EB2308035-016	EB2308035-017	EB2308035-018	EB2308035-019	EB2308035-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**38.4**	**49.0**	**49.1**	**33.9**	**53.5**
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	**0.0010**	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	**0.0007**	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	**0.0079**	**0.0016**	**0.0007**	**0.0020**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	**0.0009**	**0.0003**	<0.0002	**0.0003**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0011**	**0.0678**	**0.0530**	**0.0131**	**0.0344**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	**0.0004**	**0.0016**	**0.0005**	**0.0026**
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	**0.0007**	<0.0002	<0.0002	**0.0002**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	**0.0002**	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	**0.0004**	<0.0002	<0.0002	**0.0003**
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	**0.0004**	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	**0.0011**	**0.0002**	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0207_SD070_230315	0207_SD024_230315	0207_SD010_230315	0207_SD011_230315	0207_SD015_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-016	EB2308035-017	EB2308035-018	EB2308035-019	EB2308035-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0006	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0006	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0006	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0011**	**0.0815**	**0.0567**	**0.0143**	**0.0398**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0011**	**0.0757**	**0.0546**	**0.0138**	**0.0364**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0011**	**0.0776**	**0.0546**	**0.0138**	**0.0366**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**99.5**	**111**	**112**	**114**	**110**
13C8-PFOA	----	0.0002	%		**105**	**100**	**104**	**108**	**99.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0207_SD013_230315	0207_SD025_230315	0207_SD107_230315	0207_SD016_230315	0207_SD102_230315
			Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EB2308035-021	EB2308035-022	EB2308035-023	EB2308035-024	EB2308035-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**43.8**	**58.6**	**34.9**	**39.9**	**47.0**
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0010	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0010	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	**0.0012**	**0.0034**	**0.0005**	**0.0004**	**0.0006**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	**0.0003**	<0.0010	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0372**	**0.0649**	**0.0068**	**0.0069**	**0.0083**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	**0.0016**	**0.0072**	<0.0002	<0.0002	**0.0008**
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.005	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0010	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	**0.0022**	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	**0.0039**	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	**0.0119**	**0.0002**	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	**0.0254**	**0.0004**	**0.0003**	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	**0.147**	**0.0009**	**0.0007**	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	**0.538**	**0.0015**	**0.0010**	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	**1.46**	**0.0018**	**0.0011**	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	**1.49**	**0.0006**	**0.0004**	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	**1.99**	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	**0.0010**	<0.0010	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0025	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0207_SD013_230315	0207_SD025_230315	0207_SD107_230315	0207_SD016_230315	0207_SD102_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-021	EB2308035-022	EB2308035-023	EB2308035-024	EB2308035-025
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0025	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0025	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0025	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0010	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0010	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0010	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	**0.0065**	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	**0.454**	**0.0016**	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	**0.126**	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0413**	**6.33**	**0.0143**	**0.0108**	**0.0097**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0384**	**0.0683**	**0.0073**	**0.0073**	**0.0089**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0384**	**0.547**	**0.0091**	**0.0073**	**0.0089**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**99.5**	**120**	**106**	**99.0**	**106**
13C8-PFOA	----	0.0002	%		**104**	**90.0**	**103**	**94.0**	**100**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0207_SD105_230315	0207_SD036_230315	0207_SD037_230315	0207_QC101_230315	0207_QC103_230315
			Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EB2308035-026	EB2308035-027	EB2308035-028	EB2308035-030	EB2308035-032
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**42.5**	**47.6**	**39.2**	**52.9**	**47.8**
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**0.0008**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**0.0005**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	**0.0006**	**0.0007**	**0.0003**	**0.0007**	**0.0076**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**0.0009**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0113**	**0.0119**	**0.0029**	**0.0144**	**0.0688**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	**0.0004**	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**0.0006**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**0.0004**
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	**0.0005**	**0.0008**	**0.0002**	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	**0.0002**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	**0.0012**	**0.0010**	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	**0.0002**	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0207_SD105_230315	0207_SD036_230315	0207_SD037_230315	0207_QC101_230315	0207_QC103_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-026	EB2308035-027	EB2308035-028	EB2308035-030	EB2308035-032
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0006
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0006
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0006
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0142**	**0.0144**	**0.0034**	**0.0153**	**0.0796**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0119**	**0.0126**	**0.0032**	**0.0151**	**0.0764**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0119**	**0.0126**	**0.0032**	**0.0151**	**0.0782**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**116**	**100**	**89.5**	**99.0**	**98.0**
13C8-PFOA	----	0.0002	%		**112**	**100**	**103**	**100**	**103**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0207_SD038_230315	----	----	----	----
			Sampling date / time	15-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2308035-034	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**58.0**	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0021**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0207_SD038_230315	----	----	----	----
				Sampling date / time	15-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2308035-034	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0021**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0021**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0021**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**95.5**	----	----	----	----
13C8-PFOA	----	0.0002	%		**96.0**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW024_230315	0207_SW027_230315	0207_SW026_230315	0207_SW009_230315	0207_SW021_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-001	EB2308035-003	EB2308035-004	EB2308035-005	EB2308035-006
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.04	<0.02	<0.04	**0.04**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.03**	<0.02	<0.02	**0.02**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.36**	**0.14**	**0.22**	**0.24**	**0.06**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.87**	**0.47**	**0.94**	**0.90**	**0.33**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	**0.5**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**1.06**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.05**	<0.02	<0.04	**0.06**	**0.84**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.95**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.05**	<0.02	<0.02	**0.01**	**1.54**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**1.03**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.67**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.27**
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.20**
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.05**
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.06	<0.06	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.06	<0.06	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.06	<0.06	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW024_230315	0207_SW027_230315	0207_SW026_230315	0207_SW009_230315	0207_SW021_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-001	EB2308035-003	EB2308035-004	EB2308035-005	EB2308035-006
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.06	<0.06	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.06	<0.06	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	**0.68**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	**3.15**
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**3.40**	**0.61**	**1.16**	**1.27**	**11.3**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**3.23**	**0.61**	**1.16**	**1.14**	**0.39**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**3.33**	**0.61**	**1.16**	**1.25**	**9.11**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.6**	**110**	**106**	**99.4**	**105**
13C8-PFOA	----	0.02	%		**97.4**	**97.8**	**101**	**99.7**	**99.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW063_230315	0207_SW019_230315	0207_SW013_230315	0207_SW012_230315	0207_SW011_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-007	EB2308035-008	EB2308035-009	EB2308035-010	EB2308035-011
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.04	<0.06	**0.04**	<0.05	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.26**	**0.36**	**0.19**	<0.05	**0.11**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**1.04**	**0.75**	**0.60**	**0.12**	**0.12**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.2	<0.1	<0.2	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.08	<0.05	<0.02	<0.05	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.12**	**0.10**	**0.08**	<0.05	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.04**	<0.05	<0.02	<0.05	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.09**	**0.08**	**0.01**	<0.05	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.06**	<0.05	<0.02	<0.05	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.05**	<0.05	<0.02	<0.05	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		**0.02**	<0.05	<0.02	<0.05	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.12	<0.05	<0.12	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.12	<0.05	<0.12	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.12	<0.05	<0.12	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW063_230315	0207_SW019_230315	0207_SW013_230315	0207_SW012_230315	0207_SW011_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-007	EB2308035-008	EB2308035-009	EB2308035-010	EB2308035-011
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.12	<0.05	<0.12	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.12	<0.05	<0.12	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.05	<0.02	<0.05	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.17**	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.85**	**1.29**	**0.92**	**0.12**	**0.23**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.30**	**1.11**	**0.79**	**0.12**	**0.23**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.72**	**1.29**	**0.92**	**0.12**	**0.23**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**109**	**96.7**	**105**	**108**	**111**
13C8-PFOA	----	0.02	%		**103**	**102**	**99.0**	**102**	**100**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW010_230315	0207_SW004_230315	0207_SW028_230315	0207_QC100_230315	0207_QC102_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-012	EB2308035-013	EB2308035-014	EB2308035-029	EB2308035-031
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.02**	**0.02**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.04**	<0.01	<0.01	**0.17**	**0.29**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.09**	<0.02	<0.02	**0.50**	**2.69**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.06**	**0.05**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.02	<0.01	<0.01	<0.01	**0.05**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW010_230315	0207_SW004_230315	0207_SW028_230315	0207_QC100_230315	0207_QC102_230315
				Sampling date / time	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00	15-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EB2308035-012	EB2308035-013	EB2308035-014	EB2308035-029	EB2308035-031
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.13**	<0.01	<0.01	**0.79**	**3.14**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.13**	<0.01	<0.01	**0.67**	**2.98**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.13**	<0.01	<0.01	**0.77**	**3.08**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**97.3**	**97.1**	**112**	**102**
13C8-PFOA	----	0.02	%		**101**	**97.4**	**96.3**	**97.3**	**99.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC300_230315	----	----	----	----
				Sampling date / time	15-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2308035-033	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC300_230315	----	----	----	----
				Sampling date / time	15-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2308035-033	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.0**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2308035**	Page	: 1 of 9
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 16-Mar-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: ----	Issue Date	: 18-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 32		
No. of samples analysed	: 32		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4937320)									
EB2308035-016	0207_SD070_230315	EA055: Moisture Content	----	0.1	%	38.4	38.6	0.3	0% - 20%
EB2308035-026	0207_SD105_230315	EA055: Moisture Content	----	0.1	%	42.5	42.6	0.3	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4937319)									
EB2308035-016	0207_SD070_230315	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0011	0.0014	22.5	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EB2308035-026	0207_SD105_230315	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0006	0.0004	41.2	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0113	# 0.0081	33.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0004	0.0002	37.5	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4937319)									
EB2308035-016	0207_SD070_230315	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4937319) - continued									
EB2308035-016	0207_SD070_230315	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EB2308035-026	0207_SD105_230315	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0005	0.0003	49.9	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0012	0.0010	10.9	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4937319)									
EB2308035-016	0207_SD070_230315	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2308035-026	0207_SD105_230315	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4937319)									
EB2308035-016	0207_SD070_230315	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2308035-026	0207_SD105_230315	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4938087)									
ET2301455-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	33.3	36.5	9.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	36.9	42.8	14.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	4.68	4.88	4.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	4.93	4.68	5.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	2.40	2.33	3.0	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.09	<0.09	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4938087)									
ET2301455-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.67	2.86	7.2	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.91	2.09	8.8	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	9.79	10.5	6.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.16	1.08	6.2	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.23	<0.23	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.8	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4938087)									
ET2301455-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.09	<0.09	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4938087) - continued									
ET2301455-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.23	<0.23	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.23	<0.23	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.23	<0.23	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.23	<0.23	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4938087)									
ET2301455-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.09	<0.09	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4938087)									
ET2301455-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	98.4	108	9.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	70.2	79.3	12.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	91.1	102	10.8	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4937319)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	118	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	120	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	120	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	126	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	108	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	107	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937319)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	108	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	114	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937319)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	114	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	113	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	109	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	121	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937319)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937319) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	122	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	138	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	96.2	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	92.1	54.8	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4938087)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	94.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	80.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	84.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4938087)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	81.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	81.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	80.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	76.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4938087)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	80.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	72.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	72.3	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.0	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.3	62.6	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4938087) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	93.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	83.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4938087)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	97.3	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	99.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	92.5	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	88.8	64.2	133
EP231P: PFAS Sums (QCLot: 4938087)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4937319)							
EB2308035-017	0207_SD024_230315	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	99.0	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	114	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	# 144	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	118	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	77.5	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937319)							
EB2308035-017	0207_SD024_230315	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	127	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	# 156	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	103	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	92.8	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	116	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	# 133	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	110	69.0	133

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937319) - continued							
EB2308035-017	0207_SD024_230315	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	131	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	# 140	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# 180	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	126	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937319)							
EB2308035-017	0207_SD024_230315	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	106	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	121	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	117	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	94.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	85.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	102	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	86.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937319)							
EB2308035-017	0207_SD024_230315	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	111	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	136	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	105	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	# 44.2	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2308035**	Page	: 1 of 7
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	[redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 16-Mar-2023
Site	: ----	Issue Date	: 18-May-2023
Sampler	[redacted]	No. of samples received	: 32
Order number	: 60612563 2.1	No. of samples analysed	: 32

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2308035--026	0207_SD105_230315	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	33.1 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2308035--017	0207_SD024_230315	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	144 %	67.0-130%	**Recovery greater than upper data quality objective**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2308035--017	0207_SD024_230315	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2308035--017	0207_SD024_230315	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	156 %	69.0-132%	**Recovery greater than upper data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2308035--017	0207_SD024_230315	**Perfluorononanoic acid (PFNA)**	375-95-1	133 %	72.0-129%	**Recovery greater than upper data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2308035--017	0207_SD024_230315	**Perfluorododecanoic acid (PFDoDA)**	307-55-1	140 %	69.0-135%	**Recovery greater than upper data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2308035--017	0207_SD024_230315	**Perfluorotridecanoic acid (PFTrDA)**	72629-94-8	180 %	66.0-139%	**Recovery greater than upper data quality objective**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EB2308035--017	0207_SD024_230315	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	44.2 %	70.0-130%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
	1				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	19	5.26	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	19	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055)							
0207_SD070_230315, 0207_SD024_230315, 0207_SD010_230315, 0207_SD011_230315, 0207_SD015_230315, 0207_SD013_230315, 0207_SD025_230315, 0207_SD107_230315, 0207_SD016_230315, 0207_SD102_230315, 0207_SD105_230315, 0207_SD036_230315, 0207_SD037_230315, 0207_QC101_230315, 0207_QC103_230315, 0207_SD038_230315	**15-Mar-2023**	**----**	----	**----**	**17-Mar-2023**	29-Mar-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0207_SD070_230315, 0207_SD024_230315, 0207_SD010_230315, 0207_SD011_230315, 0207_SD015_230315, 0207_SD013_230315, 0207_SD025_230315, 0207_SD107_230315, 0207_SD016_230315, 0207_SD102_230315, 0207_SD105_230315, 0207_SD036_230315, 0207_SD037_230315, 0207_QC101_230315, 0207_QC103_230315, 0207_SD038_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	29-Apr-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X)							
0207_SD070_230315, 0207_SD024_230315, 0207_SD010_230315, 0207_SD011_230315, 0207_SD015_230315, 0207_SD013_230315, 0207_SD025_230315, 0207_SD107_230315, 0207_SD016_230315, 0207_SD102_230315, 0207_SD105_230315, 0207_SD036_230315, 0207_SD037_230315, 0207_QC101_230315, 0207_QC103_230315, 0207_SD038_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	29-Apr-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X)							
0207_SD070_230315, 0207_SD024_230315, 0207_SD010_230315, 0207_SD011_230315, 0207_SD015_230315, 0207_SD013_230315, 0207_SD025_230315, 0207_SD107_230315, 0207_SD016_230315, 0207_SD102_230315, 0207_SD105_230315, 0207_SD036_230315, 0207_SD037_230315, 0207_QC101_230315, 0207_QC103_230315, 0207_SD038_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	29-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0207_SD070_230315,	0207_SD024_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	29-Apr-2023	✓
0207_SD010_230315,	0207_SD011_230315,							
0207_SD015_230315,	0207_SD013_230315,							
0207_SD025_230315,	0207_SD107_230315,							
0207_SD016_230315,	0207_SD102_230315,							
0207_SD105_230315,	0207_SD036_230315,							
0207_SD037_230315,	0207_QC101_230315,							
0207_QC103_230315,	0207_SD038_230315							
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
0207_SD070_230315,	0207_SD024_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	29-Apr-2023	✓
0207_SD010_230315,	0207_SD011_230315,							
0207_SD015_230315,	0207_SD013_230315,							
0207_SD025_230315,	0207_SD107_230315,							
0207_SD016_230315,	0207_SD102_230315,							
0207_SD105_230315,	0207_SD036_230315,							
0207_SD037_230315,	0207_QC101_230315,							
0207_QC103_230315,	0207_SD038_230315							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0207_SW024_230315,	0207_SW027_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
0207_SW026_230315,	0207_SW009_230315,							
0207_SW021_230315,	0207_SW063_230315,							
0207_SW019_230315,	0207_SW013_230315,							
0207_SW012_230315,	0207_SW011_230315,							
0207_SW010_230315,	0207_SW004_230315,							
0207_SW028_230315,	0207_QC100_230315,							
0207_QC102_230315,	0207_QC300_230315							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0207_SW024_230315,	0207_SW027_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
0207_SW026_230315,	0207_SW009_230315,							
0207_SW021_230315,	0207_SW063_230315,							
0207_SW019_230315,	0207_SW013_230315,							
0207_SW012_230315,	0207_SW011_230315,							
0207_SW010_230315,	0207_SW004_230315,							
0207_SW028_230315,	0207_QC100_230315,							
0207_QC102_230315,	0207_QC300_230315							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0207_SW024_230315,	0207_SW027_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
0207_SW026_230315,	0207_SW009_230315,							
0207_SW021_230315,	0207_SW063_230315,							
0207_SW019_230315,	0207_SW013_230315,							
0207_SW012_230315,	0207_SW011_230315,							
0207_SW010_230315,	0207_SW004_230315,							
0207_SW028_230315,	0207_QC100_230315,							
0207_QC102_230315,	0207_QC300_230315							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0207_SW024_230315,	0207_SW027_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
0207_SW026_230315,	0207_SW009_230315,							
0207_SW021_230315,	0207_SW063_230315,							
0207_SW019_230315,	0207_SW013_230315,							
0207_SW012_230315,	0207_SW011_230315,							
0207_SW010_230315,	0207_SW004_230315,							
0207_SW028_230315,	0207_QC100_230315,							
0207_QC102_230315,	0207_QC300_230315							
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0207_SW024_230315,	0207_SW027_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
0207_SW026_230315,	0207_SW009_230315,							
0207_SW021_230315,	0207_SW063_230315,							
0207_SW019_230315,	0207_SW013_230315,							
0207_SW012_230315,	0207_SW011_230315,							
0207_SW010_230315,	0207_SW004_230315,							
0207_SW028_230315,	0207_QC100_230315,							
0207_QC102_230315,	0207_QC300_230315							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	19	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2308300**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 20-Mar-2023 09:25	Issue Date	: 20-Mar-2023
Client Requested Due Date	: 29-Mar-2023	Scheduled Reporting Date	: **29-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 2.2°C - Ice present
Receipt Detail	: Medium Hard Eksy	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2308300-001	15-Mar-2023 00:00	0207_SW025_230315	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
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- Chain of Custody (CoC) (COC)	Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email
- EDI Format - ESDAT (ESDAT)	Email

CERTIFICATE OF ANALYSIS

Work Order	: **EB2308300**	Page	: 1 of 5
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 20-Mar-2023 09:25
Order number	: 60612563 2.1	Date Analysis Commenced	: 20-Mar-2023
C-O-C number	: ----	Issue Date	: 18-May-2023 11:43
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW025_230315	----	----	----	----
				Sampling date / time	15-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2308300-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.05**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.03**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.26**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.51**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.05**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW025_230315	----	----	----	----
				Sampling date / time	15-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2308300-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.92**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.77**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.89**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	----	----	----	----
13C8-PFOA	----	0.02	%		**99.9**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2308300**	Page	: 1 of 5
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 20-Mar-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 20-Mar-2023
C-O-C number	: ----	Issue Date	: 18-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4947707)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	122	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	120	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	125	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	123	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	140	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4947707)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	112	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	128	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	108	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	115	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	123	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	120	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	121	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4947707)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	134	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	137	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	129	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	119	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	128	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	129	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4947707)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4947707) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	132	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	129	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	136	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	126	64.2	133
EP231P: PFAS Sums (QCLot: 4947707)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4947707)							
EB2308445-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	127	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	124	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	122	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	132	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	122	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	130	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4947707)							
EB2308445-022	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	117	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	128	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	117	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	115	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	113	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	115	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	123	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	123	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	107	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	105	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	122	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4947707)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4947707) - continued							
EB2308445-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	116	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	119	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	110	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	122	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	120	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	105	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4947707)							
EB2308445-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	135	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	126	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	125	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	126	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2308300**	Page	: 1 of 4
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 20-Mar-2023
Site	: ----	Issue Date	: 18-May-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_SW025_230315	**15-Mar-2023**	**25-Mar-2023**	11-Sep-2023	✓	**27-Mar-2023**	11-Sep-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_SW025_230315	**15-Mar-2023**	**25-Mar-2023**	11-Sep-2023	✓	**27-Mar-2023**	11-Sep-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_SW025_230315	**15-Mar-2023**	**25-Mar-2023**	11-Sep-2023	✓	**27-Mar-2023**	11-Sep-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_SW025_230315	**15-Mar-2023**	**25-Mar-2023**	11-Sep-2023	✓	**27-Mar-2023**	11-Sep-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_SW025_230315	**15-Mar-2023**	**25-Mar-2023**	11-Sep-2023	✓	**27-Mar-2023**	11-Sep-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2311390**		
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 4
Order number	: 60612563 2.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 17-Apr-2023 15:00	Issue Date	: 29-May-2023
Client Requested Due Date	: 26-Apr-2023	Scheduled Reporting Date	: **26-Apr-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 7.4°C/11.7°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 58 / 57

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- ***SRN Reissued 18/05/2023: As per email from [redacted] on 18/05/2023, Project ID amended to QLD_0207_PFASOMP_23 and Callum Barry added as report recipient.***
- ***SRN Reissued 26/05/2023: As per email from [redacted] on 26/05/2023, COA split.***
- ***SRN Reissued 29/05/2023: As per email from [redacted] on 29/05/2023, EB2312082_010 renamed. Samples EB2312082_010 & EB2312082_053 split to different SRN's.***
- **Please be advised sample "0207_MW252_230412" (ALS# 017) was received with a container label ID of "0207_MW232_230412". For this workorder it has been labelled as per the COC. Please take this into consideration when reviewing your results.**
- ***SRN Reissued 18/04/2023: As per the email from [redacted] on 18/04/2023 project name amended and Sample Names changed on ALS#001-009 and 017.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311390-002	11-Apr-2023 00:00	1435_MW003_230411	✓
EB2311390-003	11-Apr-2023 00:00	1435_MW009_230411	✓
EB2311390-004	11-Apr-2023 00:00	1435_MW006_230411	✓
EB2311390-005	11-Apr-2023 00:00	1435_MW004_230411	✓
EB2311390-006	11-Apr-2023 00:00	1435_MW010_230411	✓
EB2311390-007	11-Apr-2023 00:00	1435_MW007_230411	✓
EB2311390-008	11-Apr-2023 00:00	1435_MW011_230411	✓
EB2311390-009	11-Apr-2023 00:00	1435_MW001_230411	✓
EB2311390-010	11-Apr-2023 00:00	1435_MW002_230411	✓
EB2311390-011	11-Apr-2023 00:00	0207_MW252_230411	✓
EB2311390-012	11-Apr-2023 00:00	0207_MW249_230411	✓
EB2311390-013	11-Apr-2023 00:00	0207_MW241_230411	✓
EB2311390-014	11-Apr-2023 00:00	0207_MW235_230411	✓
EB2311390-015	11-Apr-2023 00:00	0207_MW236_230411	✓
EB2311390-016	12-Apr-2023 00:00	0207_MW230_230412	✓
EB2311390-017	12-Apr-2023 00:00	0207_MW232_230412	✓
EB2311390-018	12-Apr-2023 00:00	0207_MW222_230412	✓
EB2311390-019	12-Apr-2023 00:00	0207_MW223_230412	✓
EB2311390-020	12-Apr-2023 00:00	0207_MW221_230412	✓
EB2311390-021	12-Apr-2023 00:00	0207_MW193_230412	✓
EB2311390-022	12-Apr-2023 00:00	0207_MW198_230412	✓
EB2311390-023	12-Apr-2023 00:00	0207_MW207_230412	✓
EB2311390-024	12-Apr-2023 00:00	0207_MW202_230412	✓
EB2311390-025	12-Apr-2023 00:00	0207_MW201_230412	✓
EB2311390-026	12-Apr-2023 00:00	0207_MW203_230412	✓
EB2311390-027	12-Apr-2023 00:00	0207_MW204_230412	✓
EB2311390-028	12-Apr-2023 00:00	0207_MW205_230412	✓
EB2311390-029	12-Apr-2023 00:00	0207_MW299_230412	✓
EB2311390-030	12-Apr-2023 00:00	0207_MW300_230412	✓
EB2311390-031	12-Apr-2023 00:00	0207_MW563_230412	✓
EB2311390-032	12-Apr-2023 00:00	0207_MW562_230412	✓
EB2311390-033	12-Apr-2023 00:00	0207_MW172_230412	✓
EB2311390-034	12-Apr-2023 00:00	0207_MW173_230412	✓
EB2311390-035	12-Apr-2023 00:00	0207_MW167_230412	✓
EB2311390-036	13-Apr-2023 00:00	0207_MW276_230413	✓

			WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311390-037	13-Apr-2023 00:00	0207_MW273_230413	✓
EB2311390-038	13-Apr-2023 00:00	0207_MW272_230413	✓
EB2311390-039	13-Apr-2023 00:00	0207_MW266_230413	✓
EB2311390-040	13-Apr-2023 00:00	0207_MW242_230413	✓
EB2311390-041	13-Apr-2023 00:00	0207_MW245_230413	✓
EB2311390-042	13-Apr-2023 00:00	0207_MW179_230413	✓
EB2311390-043	13-Apr-2023 00:00	0207_MW174_230413	✓
EB2311390-044	13-Apr-2023 00:00	0207_MW187_230413	✓
EB2311390-045	13-Apr-2023 00:00	0207_MW178_230413	✓
EB2311390-046	13-Apr-2023 00:00	0207_MW189_230413	✓
EB2311390-047	13-Apr-2023 00:00	0207_MW229_230413	✓
EB2311390-048	13-Apr-2023 00:00	0207_MW233_230413	✓
EB2311390-049	14-Apr-2023 00:00	0207_MW265_230414	✓
EB2311390-050	14-Apr-2023 00:00	0207_MW278_230414	✓
EB2311390-051	14-Apr-2023 00:00	0207_MW285_230414	✓
EB2311390-052	14-Apr-2023 00:00	0207_MW282_230414	✓
EB2311390-053	14-Apr-2023 00:00	0207_MW281_230414	✓
EB2311390-054	14-Apr-2023 00:00	0207_MW262_230414	✓
EB2311390-055	14-Apr-2023 00:00	0207_MW280_230414	✓
EB2311390-056	14-Apr-2023 00:00	0207_MW274_230414	✓
EB2311390-057	14-Apr-2023 00:00	0207_MW275_230414	✓
EB2311390-058	14-Apr-2023 00:00	0207_MW257_230414	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
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- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2311390-AC**	Page	: 1 of 23
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023 15:00
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 29-May-2023 10:54
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 48		
No. of samples analysed	: 47		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 29/05/2023: This report has been amended as a result of a request to change sample identification numbers (IDs) received from [redacted] on 29/05/2023, for samples EB2311390-010 (0207_MW002_230411) as well as request to split the COA. All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Sample "1435_MW003_230411"(EB2311390-002) shows poor matrix spike recovery for PFHpS. Insufficient sample for confirmation with re-extraction and re-analysis.
- EP231X PFAS: Unable to report results for sample '1435_MW008_230411' (EB2311390-001) due to laboratory error.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW252_230411	0207_MW249_230411	0207_MW241_230411	0207_MW235_230411	0207_MW236_230411
				Sampling date / time	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-011	EB2311390-012	EB2311390-013	EB2311390-014	EB2311390-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.55**	**0.96**	**0.13**	**4.39**	**1.38**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.53**	**1.12**	**0.14**	**3.55**	**0.79**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.20**	**4.22**	**1.02**	**6.93**	**2.38**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.17**	**0.06**	**0.11**	**0.22**	**0.07**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**9.06**	**0.19**	**4.66**	**4.27**	**0.84**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.2**	**0.3**	<0.1	**1.2**	**0.8**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.45**	**0.49**	**0.07**	**1.58**	**0.65**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.72**	**1.48**	**0.17**	**5.30**	**2.20**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.19**	**0.18**	**0.04**	**0.37**	**0.15**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.26**	**0.12**	**0.11**	**0.23**	**0.22**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.02**	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW252_230411	0207_MW249_230411	0207_MW241_230411	0207_MW235_230411	0207_MW236_230411
				Sampling date / time	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-011	EB2311390-012	EB2311390-013	EB2311390-014	EB2311390-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**14.4**	**9.12**	**6.45**	**28.0**	**9.48**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**11.3**	**4.41**	**5.68**	**11.2**	**3.22**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**13.6**	**7.94**	**6.20**	**24.3**	**8.62**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.2**	**95.0**	**94.2**	**97.2**	**98.2**
13C8-PFOA	----	0.02	%		**100**	**93.1**	**97.7**	**93.7**	**97.0**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW230_230412	0207_MW232_230412	0207_MW222_230412	0207_MW223_230412	0207_MW221_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-016	EB2311390-017	EB2311390-018	EB2311390-019	EB2311390-020
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.34**	**0.83**	**0.47**	**0.41**	**0.38**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.30**	**1.22**	**0.55**	**0.43**	**0.37**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.24**	**6.16**	**3.77**	**3.29**	**1.85**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.05**	**0.98**	**0.54**	**0.77**	**0.19**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.48**	**16.1**	**15.2**	**13.7**	**2.09**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.3**	**1.1**	**0.5**	**5.3**	**0.1**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.48**	**2.74**	**1.24**	**18.5**	**0.24**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.73**	**2.32**	**1.78**	**10.8**	**0.87**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.17**	**1.17**	**0.87**	**9.01**	**0.23**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.18**	**1.70**	**1.36**	**5.18**	**0.38**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.02**	**0.47**	**0.47**	**1.98**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	**0.38**	**0.04**	**0.06**	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	**0.06**	**0.03**	**0.06**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW230_230412	0207_MW232_230412	0207_MW222_230412	0207_MW223_230412	0207_MW221_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-016	EB2311390-017	EB2311390-018	EB2311390-019	EB2311390-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.17**	**0.57**	**3.81**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	**1.70**	**0.22**	**0.68**	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**4.29**	**37.1**	**27.6**	**74.0**	**6.70**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.72**	**22.3**	**19.0**	**17.0**	**3.94**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**3.92**	**34.0**	**26.0**	**70.7**	**6.14**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**91.6**	**91.6**	**89.4**	**90.2**	**96.9**
13C8-PFOA	----	0.02	%		**95.2**	**95.8**	**101**	**95.1**	**98.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW193_230412	0207_MW198_230412	0207_MW207_230412	0207_MW202_230412	0207_MW201_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-021	EB2311390-022	EB2311390-023	EB2311390-024	EB2311390-025
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**2.62**	**0.12**	**0.19**	**8.63**	**37.8**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**2.64**	**0.14**	**0.23**	**8.80**	**39.0**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**12.9**	**0.99**	**1.46**	**63.0**	**184**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**1.08**	**0.17**	**0.10**	**5.01**	**2.48**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**11.2**	**4.31**	**0.69**	**108**	**2.31**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**4.1**	<0.1	<0.1	**1.9**	**7.0**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.40**	**0.12**	**0.10**	**3.21**	**10.4**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**5.88**	**0.24**	**0.23**	**13.7**	**49.3**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.41**	**0.08**	**0.08**	**1.99**	**8.08**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**2.20**	**0.13**	**0.09**	**4.22**	**8.76**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.12	<0.05	<0.05	<0.60	<0.58
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.05	<0.02	<0.02	**0.50**	<0.23
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.12	<0.05	<0.05	<0.60	<0.58
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.12	<0.05	<0.05	<0.60	<0.58

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW193_230412	0207_MW198_230412	0207_MW207_230412	0207_MW202_230412	0207_MW201_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-021	EB2311390-022	EB2311390-023	EB2311390-024	EB2311390-025
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.12	<0.05	<0.05	<0.60	<0.58
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.12	<0.05	<0.05	<0.60	<0.58
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.05	<0.02	<0.02	<0.24	<0.23
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.24	<0.23
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.24	**0.42**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.24	<0.23
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.24	<0.23
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**45.4**	**6.30**	**3.17**	**219**	**350**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**24.1**	**5.30**	**2.15**	**171**	**186**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**41.7**	**5.99**	**2.84**	**205**	**308**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.6**	**107**	**96.5**	**97.3**	**103**
13C8-PFOA	----	0.02	%		**98.2**	**98.4**	**99.0**	**92.8**	**97.3**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW203_230412	0207_MW204_230412	0207_MW205_230412	0207_MW299_230412	0207_MW300_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-026	EB2311390-027	EB2311390-028	EB2311390-029	EB2311390-030
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**1.00**	**77.2**	**3.14**	**10.1**	**6.39**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.28**	**86.7**	**2.80**	**8.56**	**6.58**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**10.0**	**549**	**18.5**	**43.3**	**30.9**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.16**	**40.3**	**1.18**	**6.07**	**4.78**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.85**	**118**	**7.54**	**234**	**63.1**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.3**	**13.1**	**0.8**	**3.4**	**1.9**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.47**	**21.9**	**1.36**	**6.07**	**2.89**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.58**	**104**	**4.73**	**28.4**	**12.0**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.30**	**18.9**	**0.48**	**6.07**	**2.90**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.28**	**41.5**	**1.03**	**15.2**	**7.72**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.06	<2.25	<0.06	<1.09	<0.24
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.06	<2.25	<0.06	<1.09	<0.24
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.06	<2.25	<0.06	<1.09	<0.24

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW203_230412	0207_MW204_230412	0207_MW205_230412	0207_MW299_230412	0207_MW300_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-026	EB2311390-027	EB2311390-028	EB2311390-029	EB2311390-030
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.06	<2.25	<0.06	<1.09	<0.24
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.06	<2.25	<0.06	<1.09	<0.24
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.90	<0.02	<0.44	<0.10
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.90	<0.05	<0.44	<0.10
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**1.44**	<0.05	<0.44	**0.12**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.90	<0.05	<0.44	<0.10
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.90	<0.05	<0.44	<0.10
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**16.2**	**1070**	**41.6**	**361**	**139**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**10.8**	**667**	**26.0**	**277**	**94.0**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**14.8**	**945**	**37.6**	**346**	**128**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**90.8**	**99.9**	**98.7**	**111**
13C8-PFOA	----	0.02	%		**98.8**	**95.5**	**102**	**101**	**92.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW563_230412	0207_MW562_230412	0207_MW172_230412	0207_MW173_230412	0207_MW167_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-031	EB2311390-032	EB2311390-033	EB2311390-034	EB2311390-035
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**2.90**	**0.09**	**1.13**	**0.39**	**0.77**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**3.21**	**0.06**	**0.89**	**0.38**	**0.68**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**16.2**	**0.17**	**4.45**	**2.49**	**3.15**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.29**	<0.02	**0.44**	**0.19**	**0.39**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.50**	**0.03**	**13.4**	**2.31**	**5.47**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.7**	**0.1**	**1.1**	**0.4**	**0.2**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.10**	**0.15**	**4.06**	**1.19**	**0.32**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**4.37**	**0.13**	**3.07**	**1.52**	**1.38**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.66**	<0.02	**1.72**	**0.61**	**0.23**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.74**	**0.02**	**1.41**	**0.51**	**0.46**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.05	<0.02	**0.16**	**0.12**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.05	<0.02	**0.07**	**0.02**	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.12	<0.05	<0.06	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.12	<0.05	<0.06	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.12	<0.05	<0.06	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW563_230412	0207_MW562_230412	0207_MW172_230412	0207_MW173_230412	0207_MW167_230412
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00	12-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-031	EB2311390-032	EB2311390-033	EB2311390-034	EB2311390-035
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.12	<0.05	<0.06	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.12	<0.05	<0.06	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.05	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**3.30**	**0.27**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	**0.99**	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**30.7**	**0.75**	**36.2**	**10.4**	**13.0**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**16.7**	**0.20**	**17.8**	**4.80**	**8.62**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**27.2**	**0.69**	**34.6**	**9.69**	**12.0**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**83.6**	**101**	**106**	**99.6**	**116**
13C8-PFOA	----	0.02	%		**100**	**103**	**102**	**102**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW276_230413	0207_MW273_230413	0207_MW272_230413	0207_MW266_230413	0207_MW242_230413
				Sampling date / time	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-036	EB2311390-037	EB2311390-038	EB2311390-039	EB2311390-040
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**1.03**	<0.02	**0.08**	**1.05**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.19**	<0.02	**0.08**	**0.86**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**8.05**	<0.01	**0.42**	**3.76**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.67**	<0.02	<0.02	**0.36**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**10.4**	<0.01	**0.17**	**4.72**	**0.02**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.3**	<0.1	<0.1	**0.3**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.35**	<0.02	**0.02**	**0.32**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.72**	<0.02	**0.11**	**1.51**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.28**	<0.02	<0.02	**0.26**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.57**	<0.01	**0.02**	**0.39**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW276_230413	0207_MW273_230413	0207_MW272_230413	0207_MW266_230413	0207_MW242_230413
				Sampling date / time	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-036	EB2311390-037	EB2311390-038	EB2311390-039	EB2311390-040
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.06	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**24.6**	<0.01	**0.90**	**13.5**	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**18.4**	<0.01	**0.59**	**8.48**	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**22.7**	<0.01	**0.82**	**12.3**	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**105**	**102**	**100**	**93.9**
13C8-PFOA	----	0.02	%		**95.7**	**101**	**95.9**	**100**	**100**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW245_230413	0207_MW179_230413	0207_MW174_230413	0207_MW187_230413	0207_MW178_230413
				Sampling date / time	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-041	EB2311390-042	EB2311390-043	EB2311390-044	EB2311390-045
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.05**	**0.73**	**0.03**	**0.06**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.05**	**0.55**	<0.02	**0.07**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.28**	**2.66**	**0.03**	**0.50**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.27**	<0.02	**0.02**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.17**	**2.59**	**0.03**	**0.37**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**0.3**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.31**	**0.04**	**0.03**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.06**	**1.58**	<0.02	**0.08**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.30**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	**0.54**	<0.01	**0.02**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW245_230413	0207_MW179_230413	0207_MW174_230413	0207_MW187_230413	0207_MW178_230413
				Sampling date / time	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-041	EB2311390-042	EB2311390-043	EB2311390-044	EB2311390-045
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.07**	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.62**	**9.90**	**0.13**	**1.15**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.45**	**5.25**	**0.06**	**0.87**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.57**	**9.08**	**0.13**	**1.06**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**96.1**	**102**	**108**	**106**
13C8-PFOA	----	0.02	%		**100**	**97.0**	**94.4**	**100**	**92.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW189_230413	0207_MW229_230413	0207_MW233_230413	0207_MW265_230414	0207_MW278_230414
				Sampling date / time	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-046	EB2311390-047	EB2311390-048	EB2311390-049	EB2311390-050
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.02**	**1.06**	**0.21**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.02**	**1.19**	**0.14**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.12**	**11.1**	**0.77**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.90**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.10**	**34.9**	**0.26**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.2	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.37**	**0.04**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**2.37**	**0.13**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.23**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.70**	**0.03**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.10	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.10	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.10	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW189_230413	0207_MW229_230413	0207_MW233_230413	0207_MW265_230414	0207_MW278_230414
				Sampling date / time	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-046	EB2311390-047	EB2311390-048	EB2311390-049	EB2311390-050
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.10	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.10	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.26**	**52.8**	**1.58**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.22**	**46.0**	**1.03**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.24**	**50.7**	**1.44**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**93.2**	**73.0**	**93.8**	**102**	**113**
13C8-PFOA	----	0.02	%		**97.6**	**87.0**	**97.4**	**99.9**	**99.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW285_230414	0207_MW282_230414	0207_MW262_230414	0207_MW280_230414	0207_MW274_230414
				Sampling date / time	14-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-051	EB2311390-052	EB2311390-054	EB2311390-055	EB2311390-056
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.15**	**0.09**	<0.02	**0.10**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.10**	**0.06**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.83**	**0.37**	**0.13**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.03**	**0.03**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**1.27**	**0.34**	**0.11**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.02**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.02**	**0.02**	**0.07**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.02**	**0.04**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW285_230414	0207_MW282_230414	0207_MW262_230414	0207_MW280_230414	0207_MW274_230414
				Sampling date / time	14-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00	14-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-051	EB2311390-052	EB2311390-054	EB2311390-055	EB2311390-056
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.04**	**2.42**	**1.00**	**0.24**	**0.10**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**2.10**	**0.71**	**0.24**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.04**	**2.29**	**0.91**	**0.24**	**0.10**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**91.7**	**103**	**109**	**105**	**89.6**
13C8-PFOA	----	0.02	%		**97.5**	**100**	**100**	**98.2**	**95.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW275_230414	0207_MW257_230414	----	----	----
				Sampling date / time	14-Apr-2023 00:00	14-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB2311390-057	EB2311390-058	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.14**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.10**	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW275_230414	0207_MW257_230414	----	----	----
				Sampling date / time	14-Apr-2023 00:00	14-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB2311390-057	EB2311390-058	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.24**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.24**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.24**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**104**	----	----	----
13C8-PFOA	----	0.02	%		**99.9**	**102**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2311390-AD**	Page	: 1 of 7
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023 15:00
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 29-May-2023 10:55
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 9		
No. of samples analysed	: 9		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 29/05/2023: This report has been amended as a result of a request to change sample identification numbers (IDs) received from [redacted] n 29/05/2023, for samples EB2311390-010 (0207_MW002_230411) as well as request to split the COA. All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Sample "1435_MW003_230411"(EB2311390-002) shows poor matrix spike recovery for PFHpS. Insufficient sample for confirmation with re-extraction and re-analysis.
- EP231X PFAS: Unable to report results for sample '1435_MW008_230411' (EB2311390-001) due to laboratory error.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	1435_MW003_230411	1435_MW009_230411	1435_MW006_230411	1435_MW004_230411	1435_MW010_230411
				Sampling date / time	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-002	EB2311390-003	EB2311390-004	EB2311390-005	EB2311390-006
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**3.87**	**0.93**	<0.02	<0.02	**0.26**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**4.22**	**1.10**	<0.02	<0.02	**0.26**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**17.1**	**4.66**	<0.01	<0.01	**0.92**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.70**	**0.32**	<0.02	<0.02	**0.03**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**12.3**	**5.91**	<0.01	<0.01	**0.20**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.7**	**0.2**	<0.1	<0.1	**0.1**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.80**	**0.50**	<0.02	<0.02	**0.41**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**6.36**	**1.36**	<0.02	<0.02	**0.47**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.36**	**0.39**	<0.02	<0.02	**0.18**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**2.27**	**0.61**	<0.01	<0.01	**0.15**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	1435_MW003_230411	1435_MW009_230411	1435_MW006_230411	1435_MW004_230411	1435_MW010_230411
				Sampling date / time	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311390-002	EB2311390-003	EB2311390-004	EB2311390-005	EB2311390-006
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.19**	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**50.9**	**16.0**	<0.01	<0.01	**2.98**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**29.4**	**10.6**	<0.01	<0.01	**1.12**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**46.0**	**14.6**	<0.01	<0.01	**2.69**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**93.9**	**94.3**	**96.7**	**89.4**
13C8-PFOA	----	0.02	%		**100**	**102**	**98.9**	**94.9**	**102**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	1435_MW007_230411	1435_MW011_230411	1435_MW001_230411	1435_MW002_230411	----
				Sampling date / time	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	----
Compound	CAS Number	LOR	Unit		EB2311390-007	EB2311390-008	EB2311390-009	EB2311390-010	--------
					Result	Result	Result	Result	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.06**	**0.06**	**0.72**	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.06**	**0.06**	**0.48**	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.20**	**0.22**	**1.33**	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.02**	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.01**	**0.03**	**0.11**	**0.05**	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	**2.1**	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.05**	**0.24**	**18.7**	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.09**	**0.18**	**13.6**	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.03**	**0.06**	**5.93**	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.02**	**0.03**	**0.26**	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	1435_MW007_230411	1435_MW011_230411	1435_MW001_230411	1435_MW002_230411	----
				Sampling date / time	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	11-Apr-2023 00:00	----
Compound	CAS Number	LOR	Unit		EB2311390-007	EB2311390-008	EB2311390-009	EB2311390-010	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.20**	**0.09**	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.01**	**0.54**	**1.16**	**43.3**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.01**	**0.23**	**0.33**	**1.38**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.01**	**0.48**	**1.10**	**42.8**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.9**	**92.5**	**93.6**	**91.9**	----
13C8-PFOA	----	0.02	%		**89.2**	**99.8**	**105**	**98.3**	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2311390-AE**	Page	: 1 of 5
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023 15:00
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 29-May-2023 10:56
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 29/05/2023: This report has been amended as a result of a request to change sample identification numbers (IDs) received from [redacted] on 29/05/2023, for samples EB2311390-010 (0207_MW002_230411) as well as request to split the COA. All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Sample "1435_MW003_230411"(EB2311390-002) shows poor matrix spike recovery for PFHpS. Insufficient sample for confirmation with re-extraction and re-analysis.
- EP231X PFAS: Unable to report results for sample '1435_MW008_230411' (EB2311390-001) due to laboratory error.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW281_230414	----	----	----	----
				Sampling date / time	14-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2311390-053	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.36**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.26**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.41**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.13**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.34**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.07**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.30**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.08**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.17**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW281_230414	----	----	----	----
				Sampling date / time	14-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2311390-053	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**5.12**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**3.75**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**4.73**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.4**	----	----	----	----
13C8-PFOA	----	0.02	%		**93.4**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2311390-AC**	Page	: 1 of 10
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 29-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 48		
No. of samples analysed	: 47		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000164)									
EB2311390-011	0207_MW252_230411	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.20	2.47	11.6	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	9.06	9.67	6.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.55	0.59	6.4	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.53	0.59	10.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.17	0.19	15.2	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000164)									
EB2311390-011	0207_MW252_230411	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.26	0.29	11.9	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.45	0.47	4.7	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.72	0.81	12.7	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.19	0.21	10.2	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.3	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000164)									
EB2311390-011	0207_MW252_230411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000164) - continued									
EB2311390-011	0207_MW252_230411	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000164)									
EB2311390-011	0207_MW252_230411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5000164)									
EB2311390-011	0207_MW252_230411	EP231X: Sum of PFAS	----	0.01	µg/L	14.4	15.6	8.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.3	12.1	7.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	13.6	14.8	8.3	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	112	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	117	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000165)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	126	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	104	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	119	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	118	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000168)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	113	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	99.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	112	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	96.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	98.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5003596)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	130	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	124	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	124	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	124	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	113	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	120	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000164) - continued								
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	103	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	118	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000165)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	106	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	98.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	105	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	106	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000168)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	94.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.0	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5003596)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5003596) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	115	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	126	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	112	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	123	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000164)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	108	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	100	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	82.9	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	109	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	106	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000165)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	107	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	108	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	106	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000168)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000168) - continued								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	100	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	74.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.7	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.2	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5003596)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	129	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	111	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	123	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	114	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	120	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	109	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000164)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	113	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	126	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	129	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	119	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000165)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	126	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	115	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000168)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	97.7	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	102	64.0	140

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000168) - continued								
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	113	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	125	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5003596)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	113	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	128	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	117	64.2	133
EP231P: PFAS Sums (QCLot: 5000164)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5000165)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5000168)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5003596)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000164)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000164) - continued							
EB2311390-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	# 13.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	91.1	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000164)							
EB2311390-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	76.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	# Not Determined	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	# Not Determined	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.5	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	92.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	84.1	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000164)							
EB2311390-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	92.3	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	101	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	82.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	90.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000164)							
EB2311390-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	99.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	84.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	114	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	108	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2311390-AD**	Page	: 1 of 6
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 29-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 9		
No. of samples analysed	: 9		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000164)									
EB2311390-011	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.20	2.47	11.6	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	9.06	9.67	6.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.55	0.59	6.4	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.53	0.59	10.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.17	0.19	15.2	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000164)									
EB2311390-011	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.26	0.29	11.9	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.45	0.47	4.7	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.72	0.81	12.7	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.19	0.21	10.2	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.3	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000164)									
EB2311390-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000164) - continued									
EB2311390-011	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000164)									
EB2311390-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5000164)									
EB2311390-011	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	14.4	15.6	8.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.3	12.1	7.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	13.6	14.8	8.3	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	112	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	117	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	103	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	118	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000164)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	108	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	100	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	82.9	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	109	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	106	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000164)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000164) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	113	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	126	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	129	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	119	64.2	133
EP231P: PFAS Sums (QCLot: 5000164)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000164)							
EB2311390-002	1435_MW003_230411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	# 13.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	91.1	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000164)							
EB2311390-002	1435_MW003_230411	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	76.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	# Not Determined	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	# Not Determined	71.0	133

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000164) - continued							
EB2311390-002	1435_MW003_230411	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.5	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	92.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	84.1	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000164)							
EB2311390-002	1435_MW003_230411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	92.3	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	101	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	82.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	90.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000164)							
EB2311390-002	1435_MW003_230411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	99.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	84.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	114	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	108	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2311390-AE**	Page	: 1 of 4
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: ----	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 29-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000168)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	113	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	99.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	112	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	96.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	98.1	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000168)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	94.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.0	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000168)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	100	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	74.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.7	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.2	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000168)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000168) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	97.7	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	113	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	125	64.2	133
EP231P: PFAS Sums (QCLot: 5000168)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2311390**	Page	: 1 of 10
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Site	: ----	Issue Date	: 29-May-2023
Sampler	: [redacted]	No. of samples received	: 58
Order number	: 60612563 2.1	No. of samples analysed	: 57

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311390--002	1435_MW003_230411	**Perfluorobutane sulfonic acid (PFBS)**	375-73-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311390--002	1435_MW003_230411	**Perfluoropentane sulfonic acid (PFPeS)**	2706-91-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311390--002	1435_MW003_230411	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311390--002	1435_MW003_230411	**Perfluoroheptane sulfonic acid (PFHpS)**	375-92-8	13.0 %	69.0-134%	**Recovery less than lower data quality objective**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311390--002	1435_MW003_230411	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2311390--002	1435_MW003_230411	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2311390--002	1435_MW003_230411	**Perfluorohexanoic acid (PFHxA)**	307-24-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2311390--002	1435_MW003_230411	**Perfluoroheptanoic acid (PFHpA)**	375-85-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2311390--002	1435_MW003_230411	**Perfluorooctanoic acid (PFOA)**	335-67-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	1				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	67	1.49	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	67	1.49	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
1435_MW003_230411,	1435_MW009_230411,	**11-Apr-2023**	**21-Apr-2023**	08-Oct-2023	✓	**21-Apr-2023**	08-Oct-2023	✓
1435_MW006_230411,	1435_MW004_230411,							
1435_MW010_230411,	1435_MW007_230411,							
1435_MW011_230411,	1435_MW001_230411,							
1435_MW002_230411,	0207_MW252_230411,							
0207_MW249_230411,	0207_MW241_230411,							
0207_MW235_230411,	0207_MW236_230411							
HDPE (no PTFE) (EP231X)								
0207_MW230_230412,	0207_MW232_230412,	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**21-Apr-2023**	09-Oct-2023	✓
0207_MW222_230412,	0207_MW223_230412							
HDPE (no PTFE) (EP231X)								
0207_MW221_230412,	0207_MW193_230412,	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**24-Apr-2023**	09-Oct-2023	✓
0207_MW198_230412,	0207_MW207_230412,							
0207_MW202_230412,	0207_MW201_230412,							
0207_MW203_230412,	0207_MW204_230412,							
0207_MW205_230412,	0207_MW299_230412,							
0207_MW300_230412,	0207_MW563_230412,							
0207_MW562_230412,	0207_MW172_230412,							
0207_MW173_230412,	0207_MW167_230412							
HDPE (no PTFE) (EP231X)								
0207_MW276_230413,	0207_MW273_230413,	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**24-Apr-2023**	10-Oct-2023	✓
0207_MW272_230413								
HDPE (no PTFE) (EP231X)								
0207_MW266_230413,	0207_MW242_230413,	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
0207_MW245_230413,	0207_MW179_230413,							
0207_MW174_230413,	0207_MW187_230413,							
0207_MW178_230413,	0207_MW189_230413,							
0207_MW229_230413,	0207_MW233_230413							
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0207_MW265_230414, 0207_MW278_230414, 0207_MW285_230414, 0207_MW282_230414, 0207_MW281_230414, 0207_MW262_230414, 0207_MW280_230414, 0207_MW274_230414, 0207_MW275_230414	**14-Apr-2023**	**21-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW257_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 1435_MW003_230411, 1435_MW009_230411, 1435_MW006_230411, 1435_MW004_230411, 1435_MW010_230411, 1435_MW007_230411, 1435_MW011_230411, 1435_MW001_230411, 1435_MW002_230411, 0207_MW252_230411, 0207_MW249_230411, 0207_MW241_230411, 0207_MW235_230411, 0207_MW236_230411	**11-Apr-2023**	**21-Apr-2023**	08-Oct-2023	✓	**21-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW230_230412, 0207_MW232_230412, 0207_MW222_230412, 0207_MW223_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**21-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW221_230412, 0207_MW193_230412, 0207_MW198_230412, 0207_MW207_230412, 0207_MW202_230412, 0207_MW201_230412, 0207_MW203_230412, 0207_MW204_230412, 0207_MW205_230412, 0207_MW299_230412, 0207_MW300_230412, 0207_MW563_230412, 0207_MW562_230412, 0207_MW172_230412, 0207_MW173_230412, 0207_MW167_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**24-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW276_230413, 0207_MW273_230413, 0207_MW272_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**24-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW266_230413, 0207_MW242_230413, 0207_MW245_230413, 0207_MW179_230413, 0207_MW174_230413, 0207_MW187_230413, 0207_MW178_230413, 0207_MW189_230413, 0207_MW229_230413, 0207_MW233_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW265_230414, 0207_MW278_230414, 0207_MW285_230414, 0207_MW282_230414, 0207_MW281_230414, 0207_MW262_230414, 0207_MW280_230414, 0207_MW274_230414, 0207_MW275_230414	**14-Apr-2023**	**21-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW257_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 1435_MW003_230411, 1435_MW009_230411, 1435_MW006_230411, 1435_MW004_230411, 1435_MW010_230411, 1435_MW007_230411, 1435_MW011_230411, 1435_MW001_230411, 1435_MW002_230411, 0207_MW252_230411, 0207_MW249_230411, 0207_MW241_230411, 0207_MW235_230411, 0207_MW236_230411	**11-Apr-2023**	**21-Apr-2023**	08-Oct-2023	✓	**21-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW230_230412, 0207_MW232_230412, 0207_MW222_230412, 0207_MW223_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**21-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW221_230412, 0207_MW193_230412, 0207_MW198_230412, 0207_MW207_230412, 0207_MW202_230412, 0207_MW201_230412, 0207_MW203_230412, 0207_MW204_230412, 0207_MW205_230412, 0207_MW299_230412, 0207_MW300_230412, 0207_MW563_230412, 0207_MW562_230412, 0207_MW172_230412, 0207_MW173_230412, 0207_MW167_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**24-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW276_230413, 0207_MW273_230413, 0207_MW272_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**24-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW266_230413, 0207_MW242_230413, 0207_MW245_230413, 0207_MW179_230413, 0207_MW174_230413, 0207_MW187_230413, 0207_MW178_230413, 0207_MW189_230413, 0207_MW229_230413, 0207_MW233_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW265_230414, 0207_MW278_230414, 0207_MW285_230414, 0207_MW282_230414, 0207_MW281_230414, 0207_MW262_230414, 0207_MW280_230414, 0207_MW274_230414, 0207_MW275_230414	**14-Apr-2023**	**21-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW257_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 1435_MW003_230411, 1435_MW009_230411, 1435_MW006_230411, 1435_MW004_230411, 1435_MW010_230411, 1435_MW007_230411, 1435_MW011_230411, 1435_MW001_230411, 1435_MW002_230411, 0207_MW252_230411, 0207_MW249_230411, 0207_MW241_230411, 0207_MW235_230411, 0207_MW236_230411	**11-Apr-2023**	**21-Apr-2023**	08-Oct-2023	✓	**21-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW230_230412, 0207_MW232_230412, 0207_MW222_230412, 0207_MW223_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**21-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW221_230412, 0207_MW193_230412, 0207_MW198_230412, 0207_MW207_230412, 0207_MW202_230412, 0207_MW201_230412, 0207_MW203_230412, 0207_MW204_230412, 0207_MW205_230412, 0207_MW299_230412, 0207_MW300_230412, 0207_MW563_230412, 0207_MW562_230412, 0207_MW172_230412, 0207_MW173_230412, 0207_MW167_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**24-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW276_230413, 0207_MW273_230413, 0207_MW272_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**24-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW266_230413, 0207_MW242_230413, 0207_MW245_230413, 0207_MW179_230413, 0207_MW174_230413, 0207_MW187_230413, 0207_MW178_230413, 0207_MW189_230413, 0207_MW229_230413, 0207_MW233_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW265_230414, 0207_MW278_230414, 0207_MW285_230414, 0207_MW282_230414, 0207_MW281_230414, 0207_MW262_230414, 0207_MW280_230414, 0207_MW274_230414, 0207_MW275_230414	**14-Apr-2023**	**21-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW257_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 1435_MW003_230411, 1435_MW009_230411, 1435_MW006_230411, 1435_MW004_230411, 1435_MW010_230411, 1435_MW007_230411, 1435_MW011_230411, 1435_MW001_230411, 1435_MW002_230411, 0207_MW252_230411, 0207_MW249_230411, 0207_MW241_230411, 0207_MW235_230411, 0207_MW236_230411	**11-Apr-2023**	**21-Apr-2023**	08-Oct-2023	✓	**21-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW230_230412, 0207_MW232_230412, 0207_MW222_230412, 0207_MW223_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**21-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW221_230412, 0207_MW193_230412, 0207_MW198_230412, 0207_MW207_230412, 0207_MW202_230412, 0207_MW201_230412, 0207_MW203_230412, 0207_MW204_230412, 0207_MW205_230412, 0207_MW299_230412, 0207_MW300_230412, 0207_MW563_230412, 0207_MW562_230412, 0207_MW172_230412, 0207_MW173_230412, 0207_MW167_230412	**12-Apr-2023**	**21-Apr-2023**	09-Oct-2023	✓	**24-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW276_230413, 0207_MW273_230413, 0207_MW272_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**24-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW266_230413, 0207_MW242_230413, 0207_MW245_230413, 0207_MW179_230413, 0207_MW174_230413, 0207_MW187_230413, 0207_MW178_230413, 0207_MW189_230413, 0207_MW229_230413, 0207_MW233_230413	**13-Apr-2023**	**21-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW265_230414, 0207_MW278_230414, 0207_MW285_230414, 0207_MW282_230414, 0207_MW281_230414, 0207_MW262_230414, 0207_MW280_230414, 0207_MW274_230414, 0207_MW275_230414	**14-Apr-2023**	**21-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW257_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	67	**1.49**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	67	**5.97**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	67	**5.97**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	67	**1.49**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2311393**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted] 4053
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP	Page	: 1 of 2
Order number	: 60612563 2.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 17-Apr-2023 15:00	Issue Date	: 17-Apr-2023
Client Requested Due Date	: 26-Apr-2023	Scheduled Reporting Date	: **26-Apr-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 7.4°C/11.7°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 11 / 7

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Extra samples were received labelled as "0207_QC301_230411", "0207_QC302_230412", "0207_QC303_230413" and "0207_QC304_230414" and have been placed on hold. If testing is required on these samples, please contact ALS Client Services at ALSEnviro.Brisbane@alsglobal.com**
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- **Indicated samples have been forwarded to NMI Sydney as requested. Please note that this will incur a freight forwarding fee.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311393-001	13-Apr-2023 00:00	0207_MW038_230413		✓
EB2311393-002	12-Apr-2023 00:00	0207_QC103_230412		✓
EB2311393-003	12-Apr-2023 00:00	0207_QC104_230412		✓
EB2311393-004	13-Apr-2023 00:00	0207_QC105_230413		✓
EB2311393-005	13-Apr-2023 00:00	0207_QC106_230413		✓
EB2311393-006	13-Apr-2023 00:00	0207_QC107_230413		✓
EB2311393-007	14-Apr-2023 00:00	0207_QC108_230414		✓
EB2311393-008	11-Apr-2023 00:00	0207_QC301_230411	✓	
EB2311393-009	12-Apr-2023 00:00	0207_QC302_230412	✓	
EB2311393-010	13-Apr-2023 00:00	0207_QC303_230413	✓	
EB2311393-011	14-Apr-2023 00:00	0207_QC304_230414	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email — AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2311393-AA**	Page	: 1 of 7
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted] FORTITUDE VALLEY 4006	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023 15:00
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 18-May-2023 12:00
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 10		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231X PFAS: Samples "0207_QC103_230412"(EB2311393-002) & "0207_QC104_230412"(EB2311393-003) required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC103_230412	0207_QC104_230412	0207_QC105_230413	0207_QC106_230413	0207_QC107_230413
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311393-002	EB2311393-003	EB2311393-004	EB2311393-005	EB2311393-006
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.85**	**69.0**	**0.19**	**0.02**	**0.09**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.79**	**93.8**	**0.16**	**0.02**	**0.10**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**3.64**	**558**	**0.81**	**0.11**	**0.46**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.40**	**40.2**	**0.02**	<0.02	**0.02**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**6.01**	**146**	**0.27**	**0.10**	**0.18**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.3**	**15.0**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.35**	**19.8**	**0.04**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.44**	**98.4**	**0.14**	<0.02	**0.11**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.26**	**18.0**	**0.02**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.46**	**39.7**	**0.04**	<0.01	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.06	<2.08	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.06	<2.08	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.06	<2.08	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC103_230412	0207_QC104_230412	0207_QC105_230413	0207_QC106_230413	0207_QC107_230413
				Sampling date / time	12-Apr-2023 00:00	12-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00	13-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311393-002	EB2311393-003	EB2311393-004	EB2311393-005	EB2311393-006
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.06	<2.08	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.06	<2.08	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.83	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.83	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**2.08**	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.83	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.83	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**14.5**	**1100**	**1.69**	**0.25**	**0.98**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**9.65**	**704**	**1.08**	**0.21**	**0.64**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**13.3**	**966**	**1.51**	**0.23**	**0.86**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.9**	**107**	**99.0**	**102**	**110**
13C8-PFOA	----	0.02	%		**98.7**	**99.0**	**99.5**	**99.9**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC108_230414	0207_QC301_230411	0207_QC302_230412	0207_QC303_230413	0207_QC304_230414
				Sampling date / time	14-Apr-2023 00:00	11-Apr-2023 00:00	12-Apr-2023 00:00	13-Apr-2023 00:00	14-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311393-007	EB2311393-008	EB2311393-009	EB2311393-010	EB2311393-011
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC108_230414	0207_QC301_230411	0207_QC302_230412	0207_QC303_230413	0207_QC304_230414
				Sampling date / time	14-Apr-2023 00:00	11-Apr-2023 00:00	12-Apr-2023 00:00	13-Apr-2023 00:00	14-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2311393-007	EB2311393-008	EB2311393-009	EB2311393-010	EB2311393-011
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**103**	**102**	**109**	**111**
13C8-PFOA	----	0.02	%		**96.9**	**104**	**100**	**103**	**104**

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2311393-AB**	Page	: 1 of 5
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023 15:00
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 18-May-2023 12:00
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- EP231X PFAS: Samples "0207_QC103_230412"(EB2311393-002) & "0207_QC104_230412"(EB2311393-003) required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW038_230413	----	----	----	----
				Sampling date / time	13-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2311393-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.07**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.36**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.03**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.71**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.07**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.04**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW038_230413	----	----	----	----
				Sampling date / time	13-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2311393-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.34**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.07**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.25**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**89.0**	----	----	----	----
13C8-PFOA	----	0.02	%		**101**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2311393-AA**	Page	: 1 of 8
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 18-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 10		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5008390)									
EB2311427-041	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.13	0.13	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.75	0.74	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.07	<0.07	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2311881-002	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5008390)									
EB2311427-041	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	0.14	0.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.44	0.46	4.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.32	0.36	12.2	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.24	0.23	0.0	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5008390) - continued									
EB2311881-002	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5008390)									
EB2311427-041	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311881-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5008390)									
EB2311427-041	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5008390) - continued									
EB2311427-041	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.47	0.45	3.8	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.13	0.12	13.2	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311881-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5008390)									
EB2311427-041	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	2.67	2.68	0.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.88	0.87	1.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2.62	2.63	0.4	0% - 20%
EB2311881-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5003596)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	130	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	124	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	124	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	124	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	113	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	120	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5008390)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	128	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	127	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	118	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	127	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	116	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5003596)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	115	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	126	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	112	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	123	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5008390)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	116	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5008390) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	120	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	124	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	121	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5003596)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	129	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	111	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	123	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	114	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	120	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	109	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5008390)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	127	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	102	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	115	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	120	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	136	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	106	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5003596)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	113	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	128	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	117	64.2	133

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5008390)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	131	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	126	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	128	64.2	133
EP231P: PFAS Sums (QCLot: 5003596)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5008390)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5008390)							
EB2311881-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	126	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	117	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	110	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	115	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	116	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5008390)							
EB2311881-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	116	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	108	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	120	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	110	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	103	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	99.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5008390) - continued							
EB2311881-001	Anonymous	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	114	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	121	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	121	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5008390)							
EB2311881-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	117	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	89.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	91.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	113	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	108	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5008390)							
EB2311881-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	119	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	113	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	106	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	98.3	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2311393-AB**	Page	: 1 of 4
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted] FORTITUDE VALLEY 4006	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Apr-2023
C-O-C number	: ----	Issue Date	: 18-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5003596)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	130	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	124	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	124	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	124	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	113	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	120	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5003596)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	115	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	126	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	112	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	123	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5003596)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	129	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	111	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	123	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	114	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	120	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	109	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5003596)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5003596) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	113	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	128	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	117	64.2	133
EP231P: PFAS Sums (QCLot: 5003596)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2311393**	Page	: 1 of 6
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 17-Apr-2023
Site	: ----	Issue Date	: 18-May-2023
Sampler	: [redacted]	No. of samples received	: 11
Order number	: 60612563 2.1	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	28	7.14	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	28	3.57	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation* Date extracted	Due for extraction	Evaluation	*Analysis* Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_QC301_230411	**11-Apr-2023**	**24-Apr-2023**	08-Oct-2023	✓	**26-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC103_230412, 0207_QC104_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**25-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC302_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**26-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW038_230413, 0207_QC105_230413, 0207_QC106_230413, 0207_QC107_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC303_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**26-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC108_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC304_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**26-Apr-2023**	11-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_QC301_230411	**11-Apr-2023**	**24-Apr-2023**	08-Oct-2023	✓	**26-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC103_230412, 0207_QC104_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**25-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC302_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**26-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW038_230413, 0207_QC105_230413, 0207_QC106_230413, 0207_QC107_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC303_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**26-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC108_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC304_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**26-Apr-2023**	11-Oct-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_QC301_230411	**11-Apr-2023**	**24-Apr-2023**	08-Oct-2023	✓	**26-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC103_230412, 0207_QC104_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**25-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC302_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**26-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW038_230413, 0207_QC105_230413, 0207_QC106_230413, 0207_QC107_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC303_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**26-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC108_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC304_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**26-Apr-2023**	11-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_QC301_230411	**11-Apr-2023**	**24-Apr-2023**	08-Oct-2023	✓	**26-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC103_230412, 0207_QC104_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**25-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC302_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**26-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW038_230413, 0207_QC105_230413, 0207_QC106_230413, 0207_QC107_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC303_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**26-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC108_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC304_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**26-Apr-2023**	11-Oct-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_QC301_230411	**11-Apr-2023**	**24-Apr-2023**	08-Oct-2023	✓	**26-Apr-2023**	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC103_230412, 0207_QC104_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**25-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC302_230412	**12-Apr-2023**	**24-Apr-2023**	09-Oct-2023	✓	**26-Apr-2023**	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW038_230413, 0207_QC105_230413, 0207_QC106_230413, 0207_QC107_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**25-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC303_230413	**13-Apr-2023**	**24-Apr-2023**	10-Oct-2023	✓	**26-Apr-2023**	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC108_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**25-Apr-2023**	11-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC304_230414	**14-Apr-2023**	**24-Apr-2023**	11-Oct-2023	✓	**26-Apr-2023**	11-Oct-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	28	**7.14**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	28	**3.57**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2312082**		
Amendment	: **6**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 5
Order number	: 60612563 2.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	[redacted]		

Dates

Date Samples Received	: 21-Apr-2023 11:50	Issue Date	: 26-May-2023
Client Requested Due Date	: 03-May-2023	Scheduled Reporting Date	: **26-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 3.3°C, 3.1°C - Ice present
Receipt Detail	: HARD ESKIES	No. of samples received / analysed	: 47 / 47

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised that where the sampling date "230418" is listed on the Chain of Custody for samples #009 to #014, ALS has reported the sampling dates as per the sample container labels (18/04/2023). If you wish to discuss this, please contact client services at ALSEnviro.Brisbane@alsglobal.com**
- ***SRN Reissued 15/05/2023: As per email from [redacted] on 12/05/2023, EB23120825_042 sample renamed and moved to COA AB.***
- ***SRN Reissued 15/05/2023: As per email from [redacted] on 15/05/2023, Sample EB2312082_006 split to standalone COA.***
- ***SRN Reissued 16/05/2023: As per email from [redacted] on 16/05/2023, Sample ID's amended on EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420)***
- ***SRN Reissued 18/05/2023: As per email from [redacted] on 18/05/2023, Project ID amended to QLD_0207_PFASOMP_23 and derp.labreports & [redacted] added as report recipients.***
- ***SRN Reissued 19/05/2023: As per email from [redacted] on 19/05/2023, Project ID updated to QLD_0207_PFASOMP_23.***
- ***SRN Reissued 26/05/2023: As per email from [redacted] on 26/05/2023, COA split for Samples EB2312082_021 & 032.***
- **Please be advised, as per Chain of Custody received, analysis has not been assigned to samples 33<->39. An email was sent 22/04/23 to all recipients seeking a directive. Please contact ALS Brisbane Client Services Department to add a directive to these samples at ALSEnviro.Brisbane@alsglobal.com or phone 3243 7222.**
- **24/04/23 SRN has been resent to acknowledge analysis assigned to samples 43 <->46. For any further information regarding these adjustments please contact client services at ALSEnviro.Brisbane@alsglobal.com.**
- **Please be advised that samples "0207_SW065_230419" & "0207_MW267_230418" was not received at the laboratory (denoted SNR on the scanned COC).**
- ***SRN Reissued 28/04/2023: As per the email from [redacted] on 24/04/2023 this work order has been amended to split the COA.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.

- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **An extra sample was received labelled as " 0207_MW167_230418 " (ALS #42) and has been assigned analysis. If testing is NOT required on this sample, please contact ALS Client Services at ALSEnviro.Brisbane@alsglobal.com**
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- **Where indicated on the Chain of Custody, samples have been forwarded to NMI Sydney, as requested. Please note that this will incur a freight forwarding fee.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2312082-010	18-Apr-2023 00:00	0207_SD018_230418	✓	✓
EB2312082-012	18-Apr-2023 00:00	0207_SD017_230418	✓	✓
EB2312082-023	19-Apr-2023 00:00	0207_SD022_230419	✓	✓
EB2312082-025	19-Apr-2023 00:00	0207_SD007_230419	✓	✓
EB2312082-026	19-Apr-2023 00:00	0207_SD106_230419	✓	✓
EB2312082-028	19-Apr-2023 00:00	0207_SD040_230419	✓	✓
EB2312082-035	18-Apr-2023 00:00	0207_QC111_230418	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2312082-001	17-Apr-2023 00:00	0207_MW293_230417	✓
EB2312082-002	17-Apr-2023 00:00	0207_MW056_230417	✓
EB2312082-003	17-Apr-2023 00:00	0207_MW292_230417	✓
EB2312082-004	17-Apr-2023 00:00	0207_MW021_230417	✓
EB2312082-005	17-Apr-2023 00:00	0207_MW019_230417	✓
EB2312082-006	17-Apr-2023 00:00	0207_MW147_230417	✓
EB2312082-007	17-Apr-2023 00:00	0207_MW151_230417	✓
EB2312082-008	17-Apr-2023 00:00	0207_MW032_230417	✓
EB2312082-009	18-Apr-2023 00:00	0207_SW056_230418	✓
EB2312082-011	18-Apr-2023 00:00	0207_SW057_230418	✓
EB2312082-013	18-Apr-2023 00:00	0207_MW003_230418	✓
EB2312082-014	18-Apr-2023 00:00	0207_MW283_230418	✓
EB2312082-015	18-Apr-2023 00:00	0207_MW295_230418	✓
EB2312082-016	18-Apr-2023 00:00	0207_MW288_230418	✓
EB2312082-018	18-Apr-2023 00:00	0207_MW268_230418	✓
EB2312082-019	18-Apr-2023 00:00	0207_MW294_230418	✓

			WATER - EP231X PFAS - Full Suite (28 analytes)
EB2312082-020	18-Apr-2023 00:00	0207_MW269_230418	✓
EB2312082-021	19-Apr-2023 00:00	1435_MW005_230419	✓
EB2312082-022	19-Apr-2023 00:00	0207_SW066_230419	✓
EB2312082-024	19-Apr-2023 00:00	0207_SW043_230419	✓
EB2312082-027	19-Apr-2023 00:00	0207_SW040_230419	✓
EB2312082-029	19-Apr-2023 00:00	0207_MW290_230419	✓
EB2312082-030	19-Apr-2023 00:00	0207_MW134_230419	✓
EB2312082-031	19-Apr-2023 00:00	0207_MW291_230419	✓
EB2312082-032	19-Apr-2023 00:00	1435_MW012_230419	✓
EB2312082-033	17-Apr-2023 00:00	0207_QC109_230417	✓
EB2312082-034	18-Apr-2023 00:00	0207_QC110_230418	✓
EB2312082-036	19-Apr-2023 00:00	0207_QC112_230419	✓
EB2312082-037	20-Apr-2023 00:00	0207_QC113_230420	✓
EB2312082-038	20-Apr-2023 00:00	0207_QC114_230420	✓
EB2312082-039	17-Apr-2023 00:00	0207_QC305_230417	✓
EB2312082-040	18-Apr-2023 00:00	0207_QC306_230418	✓
EB2312082-041	19-Apr-2023 00:00	0207_QC307_230419	✓
EB2312082-042	18-Apr-2023 00:00	0207_MW267_230418	✓
EB2312082-043	20-Apr-2023 00:00	0207_MW149_230420	✓
EB2312082-044	20-Apr-2023 00:00	0207_MW113_230420	✓
EB2312082-045	20-Apr-2023 00:00	0207_MW118_230420	✓
EB2312082-046	20-Apr-2023 00:00	0207_MW114_230420	✓
EB2312082-047	20-Apr-2023 00:00	0207_MW157_230420	✓
EB2312082-048	20-Apr-2023 00:00	0207_MW122_230420	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP reports

- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CL**	Page	: 1 of 9
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:36
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 10		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Organic Chemist	Brisbane Organics, Stafford, QLD
	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from Callum Barry on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
- Amendment 16/05/2023: This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for samples EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420). All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- Amendment 19/05/2023: This report has been amended to alter the s project reference code. All analysis results are as per the previous report.
- EP231X PFAS: High LCS recoveries deemed acceptable as associated sample analyte results are less then the limit of reporting.
- EP231X PFAS: Sample "EB2312057-001" shows poor matrix spike recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_042 on separate COA (AB), received from [redacted] on 12/05/2023.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_006 on a separate COA, received from [redacted] on 15/05/2023.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0207_SD022_230419	0207_SD007_230419	0207_SD106_230419	0207_SD040_230419	----
			Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	----
Compound	CAS Number	LOR	Unit	EB2312082-023	EB2312082-025	EB2312082-026	EB2312082-028	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**52.1**	**35.8**	**32.6**	**41.5**	**----**
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	**0.0012**	<0.0002	**0.0026**	<0.0002	**----**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	**0.0002**	<0.0002	**0.0008**	<0.0002	**----**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0228**	**0.0005**	**0.0600**	<0.0004	**----**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	**0.0023**	<0.0002	<0.0002	<0.0002	**----**
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	**----**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	**0.0006**	<0.0002	**----**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	**0.0008**	<0.0002	**----**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	**0.0008**	<0.0002	**----**
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	**0.0016**	<0.0002	**----**
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	**0.0029**	<0.0002	**----**
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	**0.0029**	<0.0002	**----**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	**0.0046**	<0.0002	**----**
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	**0.0084**	<0.0002	**----**
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	**0.0029**	<0.0002	**----**
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	**0.0021**	<0.0005	**----**
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	**----**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	**----**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0207_SD022_230419	0207_SD007_230419	0207_SD106_230419	0207_SD040_230419	----
			Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	----
Compound	CAS Number	LOR	Unit	EB2312082-023	EB2312082-025	EB2312082-026	EB2312082-028	--------
				Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	**0.0026**	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	**0.0006**	<0.0005	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.0002	mg/kg	**0.0265**	**0.0005**	**0.0942**	<0.0002	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	**0.0240**	**0.0005**	**0.0626**	<0.0002	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	**0.0240**	**0.0005**	**0.0690**	<0.0002	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	**122**	**102**	**107**	**98.0**	----
13C8-PFOA	----	0.0002	%	**101**	**99.0**	**102**	**104**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW066_230419	0207_SW043_230419	0207_SW040_230419	0207_QC305_230417	0207_QC306_230418
				Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	17-Apr-2023 00:00	18-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2312082-022	EB2312082-024	EB2312082-027	EB2312082-039	EB2312082-040
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.11**	**0.03**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.34**	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.02**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.69**	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.08**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW066_230419	0207_SW043_230419	0207_SW040_230419	0207_QC305_230417	0207_QC306_230418
				Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	17-Apr-2023 00:00	18-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2312082-022	EB2312082-024	EB2312082-027	EB2312082-039	EB2312082-040
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.36**	**0.03**	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.03**	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.28**	**0.03**	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**116**	**99.1**	**115**	**118**
13C8-PFOA	----	0.02	%		**101**	**115**	**93.3**	**115**	**112**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC307_230419	----	----	----	----
				Sampling date / time	19-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-041	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC307_230419	----	----	----	----
				Sampling date / time	19-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-041	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**121**	----	----	----	----
13C8-PFOA	----	0.02	%		**113**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CM**	Page	: 1 of 9
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	: [redacted]
Address	[redacted]	Address	: [redacted]
Telephone	[redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:36
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from [redacted] on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
- Amendment 16/05/2023: This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for samples EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420). All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- Amendment 19/05/2023: This report has been amended to alter the s project reference code. All analysis results are as per the previous report.
- EP231X PFAS: High LCS recoveries deemed acceptable as associated sample analyte results are less then the limit of reporting.
- EP231X PFAS: Sample "EB2312057-001" shows poor matrix spike recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_042 on separate COA (AB), received from [redacted] on 12/05/2023.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_006 on a separate COA, received from [redacted] on 15/05/2023.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0207_SD018_230418	0207_SD017_230418	0207_QC111_230418	----	----
			Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	EB2312082-010	EB2312082-012	EB2312082-035	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**31.5**	**31.0**	**35.3**	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	**0.0002**	<0.0002	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0053**	**0.0192**	**0.0078**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	**0.0004**	**0.0020**	**0.0006**	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	**0.0002**	<0.0002	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	**0.0007**	<0.0002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	**0.0024**	<0.0002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	**0.0018**	<0.0002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	**0.0011**	<0.0002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	**0.0002**	<0.0002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0207_SD018_230418	0207_SD017_230418	0207_QC111_230418	----	----
				Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-010	EB2312082-012	EB2312082-035	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0057**	**0.0278**	**0.0084**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0053**	**0.0194**	**0.0078**	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0053**	**0.0196**	**0.0078**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**106**	**114**	**105**	----	----
13C8-PFOA	----	0.0002	%		**106**	**102**	**106**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_SW056_230418	0207_SW057_230418	0207_MW295_230418	0207_MW268_230418	0207_MW294_230418
				Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2312082-009	EB2312082-011	EB2312082-015	EB2312082-018	EB2312082-019
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.02**	<0.02	**0.13**	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.10**	**0.02**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.11**	<0.01	**0.50**	**0.17**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.02**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.58**	<0.01	**0.23**	**0.58**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	**0.1**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.07**	<0.02	**0.04**	**0.13**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.05**	<0.02	**0.14**	**0.10**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.02**	<0.02	<0.02	**0.05**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.04**	<0.01	**0.02**	**0.05**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.04**	<0.02	<0.02	**0.20**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	**0.03**	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0207_SW056_230418	0207_SW057_230418	0207_MW295_230418	0207_MW268_230418	0207_MW294_230418
			Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00
Compound	CAS Number	LOR	Unit	EB2312082-009	EB2312082-011	EB2312082-015	EB2312082-018	EB2312082-019
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	**0.96**	<0.01	**1.18**	**1.43**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	**0.69**	<0.01	**0.73**	**0.75**
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	**0.89**	<0.01	**1.06**	**1.21**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**94.8**	**97.5**	**106**	**99.9**	**101**
13C8-PFOA	----	0.02	%	**99.3**	**99.3**	**103**	**104**	**100**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW269_230418	0207_QC110_230418	0207_MW267_230418	----	----
				Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-020	EB2312082-034	EB2312082-042	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.11**	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.05**	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.16**	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.11**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**0.08**	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.13**	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.02**	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW269_230418	0207_QC110_230418	0207_MW267_230418	----	----
				Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	18-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-020	EB2312082-034	EB2312082-042	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.22**	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.22**	<0.01	**0.66**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.27**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.22**	<0.01	**0.61**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**120**	**101**	----	----
13C8-PFOA	----	0.02	%		**105**	**114**	**100**	----	----

Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CN**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:36
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from [redacted] on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
- Amendment 16/05/2023: This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for samples EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420). All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- Amendment 19/05/2023: This report has been amended to alter the s project reference code. All analysis results are as per the previous report.
- EP231X PFAS: High LCS recoveries deemed acceptable as associated sample analyte results are less then the limit of reporting.
- EP231X PFAS: Sample "EB2312057-001" shows poor matrix spike recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_042 on separate COA (AB), received from [redacted] on 12/05/2023.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_006 on a separate COA, received from [redacted] on 15/05/2023.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW293_230417	0207_MW292_230417	0207_QC109_230417	----	----
				Sampling date / time	17-Apr-2023 00:00	17-Apr-2023 00:00	17-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-001	EB2312082-003	EB2312082-033	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.15**	**0.20**	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	**0.13**	**0.17**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW293_230417	0207_MW292_230417	0207_QC109_230417	----	----
				Sampling date / time	17-Apr-2023 00:00	17-Apr-2023 00:00	17-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-001	EB2312082-003	EB2312082-033	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.02**	**0.28**	**0.37**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	**0.28**	**0.37**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	**0.28**	**0.37**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**99.7**	**130**	----	----
13C8-PFOA	----	0.02	%		**102**	**108**	**112**	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CO**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- Surrogate Control Limits

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

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Where moisture determination has been performed, results are reported on a dry weight basis.

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- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW056_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-002	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.04**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.29**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.11**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.03**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.04**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW056_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-002	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.56**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.40**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.52**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	----	----	----	----
13C8-PFOA	----	0.02	%		**99.6**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CP**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
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- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW021_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-004	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.26**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.24**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.92**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.25**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**4.93**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.07**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.30**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.06**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.12**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW021_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-004	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**8.15**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**6.85**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**7.66**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.8**	----	----	----	----
13C8-PFOA	----	0.02	%		**101**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CQ**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	[redacted]
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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW019_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-005	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.07**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW019_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-005	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.12**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.12**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.12**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.2**	----	----	----	----
13C8-PFOA	----	0.02	%		**105**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CR**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
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Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW151_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-007	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.01**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW151_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-007	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.03**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.5**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CS**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	[redacted]	Address	: [redacted]
Telephone	[redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from [redacted] on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
- Amendment 16/05/2023: This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for samples EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420). All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- Amendment 19/05/2023: This report has been amended to alter the s project reference code. All analysis results are as per the previous report.
- EP231X PFAS: High LCS recoveries deemed acceptable as associated sample analyte results are less then the limit of reporting.
- EP231X PFAS: Sample "EB2312057-001" shows poor matrix spike recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_042 on separate COA (AB), received from [redacted] on 12/05/2023.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_006 on a separate COA, received from [redacted] on 15/05/2023.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW032_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-008	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.27**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.32**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.52**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.15**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**7.19**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.1**	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.08**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.26**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.06**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.16**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.03**	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW032_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-008	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**11.1**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**9.71**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**10.6**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.6**	----	----	----	----
13C8-PFOA	----	0.02	%		**102**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CT**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: +[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

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~ = Indicates an estimated value.

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW003_230418	0207_MW283_230418	----	----	----
				Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-013	EB2312082-014	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW003_230418	0207_MW283_230418	----	----	----
				Sampling date / time	18-Apr-2023 00:00	18-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-013	EB2312082-014	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	**103**	----	----	----
13C8-PFOA	----	0.02	%		**106**	**104**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CU**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from [redacted] on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
- Amendment 16/05/2023: This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for samples EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420). All analysis results are as per the previous report.
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- EP231X PFAS: High LCS recoveries deemed acceptable as associated sample analyte results are less then the limit of reporting.
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- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW288_230418	----	----	----	----
				Sampling date / time	18-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-016	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW288_230418	----	----	----	----
				Sampling date / time	18-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-016	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	----	----	----	----
13C8-PFOA	----	0.02	%		**102**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CV**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:37
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- General Comments
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- Surrogate Control Limits

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW290_230419	0207_MW291_230419	----	----	----
				Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-029	EB2312082-031	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.07**	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.17**	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.03**	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.02**	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW290_230419	0207_MW291_230419	----	----	----
				Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-029	EB2312082-031	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.35**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.20**	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.29**	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**113**	----	----	----
13C8-PFOA	----	0.02	%		**99.9**	**111**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CW**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:38
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories

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Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

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^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

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- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from [redacted] on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW134_230419	----	----	----	----
				Sampling date / time	19-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-030	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.02**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.05**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.04**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW134_230419	----	----	----	----
				Sampling date / time	19-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-030	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.11**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.09**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.11**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**117**	----	----	----	----
13C8-PFOA	----	0.02	%		**112**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CX**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:38
Sampler	: [redacted]		
Site	: [redacted]---		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW149_230420	----	----	----	----
				Sampling date / time	20-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-043	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW149_230420	----	----	----	----
				Sampling date / time	20-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-043	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**120**	----	----	----	----
13C8-PFOA	----	0.02	%		**112**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CY**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:38
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

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ISO/IEC 17025 - Testing

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW113_230420	----	----	----	----
				Sampling date / time	20-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-044	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.03**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.22**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.14**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.04**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW113_230420	----	----	----	----
				Sampling date / time	20-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-044	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.46**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.36**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.43**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	----	----	----	----
13C8-PFOA	----	0.02	%		**104**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-CZ**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:38
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 6		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
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- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC113_230420	0207_QC114_230420	0207_MW118_230420	0207_MW114_230420	0207_MW157_230420
				Sampling date / time	20-Apr-2023 00:00	20-Apr-2023 00:00	20-Apr-2023 00:00	20-Apr-2023 00:00	20-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2312082-037	EB2312082-038	EB2312082-045	EB2312082-046	EB2312082-047
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.58**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.57**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**3.24**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.35**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**5.69**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	**0.1**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.22**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.85**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.14**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.24**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC113_230420	0207_QC114_230420	0207_MW118_230420	0207_MW114_230420	0207_MW157_230420
				Sampling date / time	20-Apr-2023 00:00	20-Apr-2023 00:00	20-Apr-2023 00:00	20-Apr-2023 00:00	20-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EB2312082-037	EB2312082-038	EB2312082-045	EB2312082-046	EB2312082-047
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**12.0**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**8.93**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**11.1**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**126**	**111**	**125**	**120**	**101**
13C8-PFOA	----	0.02	%		**118**	**110**	**116**	**116**	**99.0**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW122_230420	----	----	----	----
				Sampling date / time	20-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-048	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.26**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.25**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.99**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.17**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**4.18**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.14**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.49**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.08**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.15**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW122_230420	----	----	----	----
				Sampling date / time	20-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-048	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.09**	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.05**	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**7.85**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**6.17**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**7.43**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**114**	----	----	----	----
13C8-PFOA	----	0.02	%		**113**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-DA**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:38
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- General Comments
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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

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^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

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- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_006 on a separate COA, received from [redacted] on 15/05/2023.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW147_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-006	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW147_230417	----	----	----	----
				Sampling date / time	17-Apr-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2312082-006	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.5**	----	----	----	----
13C8-PFOA	----	0.02	%		**106**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CERTIFICATE OF ANALYSIS

Work Order	: **EB2312082-DB**	Page	: 1 of 5
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023 11:50
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023 15:38
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFOS for sample '0207_SD040_230419' (EB2312082_028) has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment 30/05/2023: This report has been amended as a result of a request to change sample name received from Callum Barry on 30/05/2023, for samples EB2312082_036. COA also split. All analysis results are as per the previous report.
- Amendment 16/05/2023: This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for samples EB2312082_045-048 (0207_MW114_230420, 0207_MW118_230420, 0207_MW122_230420, 0207_MW157_230420). All analysis results are as per the previous report.
- Amendment 18/05/2023: This report has been amended to alter the project reference code. All analysis results are as per the previous report.
- Amendment 19/05/2023: This report has been amended to alter the s project reference code. All analysis results are as per the previous report.
- EP231X PFAS: High LCS recoveries deemed acceptable as associated sample analyte results are less then the limit of reporting.
- EP231X PFAS: Sample "EB2312057-001" shows poor matrix spike recovery due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_042 on separate COA (AB), received from [redacted] on 12/05/2023.
- Amendment 15/05/2023: This report has been amended following the request to report specific samples EB2312082_006 on a separate COA, received from [redacted] on 15/05/2023.
- Amendment 26/05/2023: This report has been amended as a result of a request from [redacted] via email on 26/05/2023 to split the COA. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	1435_MW005_230419	1435_MW012_230419	1435_QC112_230419	----	----
				Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-021	EB2312082-032	EB2312082-036	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.04**	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.03**	**0.02**	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	<0.01	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**0.4**	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**4.02**	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**1.89**	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.14**	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	1435_MW005_230419	1435_MW012_230419	1435_QC112_230419	----	----
				Sampling date / time	19-Apr-2023 00:00	19-Apr-2023 00:00	19-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2312082-021	EB2312082-032	EB2312082-036	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.27**	**0.20**	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.08**	**6.78**	**0.20**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.08**	**0.02**	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.08**	**6.78**	**0.20**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**123**	**118**	----	----
13C8-PFOA	----	0.02	%		**103**	**105**	**110**	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CL**	Page	: 1 of 15
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 10		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Organic Chemist	Brisbane Organics, Stafford, QLD
	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5009042)									
EB2312057-001	Anonymous	EA055: Moisture Content	----	0.1	%	42.7	43.6	2.1	0% - 20%
EB2312082-026	0207_SD106_230419	EA055: Moisture Content	----	0.1	%	32.6	32.4	0.3	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0208	<0.0208	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.346	0.284	19.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.143	0.122	15.6	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	7.22	6.55	9.7	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
EB2312082-025	0207_SD007_230419	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	0.0008	47.8	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0130	0.0117	10.4	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0351	0.0351	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0104	0.0117	11.9	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0520	0.0507	2.4	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.138	0.126	8.8	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0260	0.0286	9.6	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5009041) - continued									
EB2312029-002	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.050	<0.050	0.0	No Limit
EB2312082-025	0207_SD007_230419	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
EB2312082-025	0207_SD007_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0260	0.0325	22.3	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0099	0.0117	16.6	No Limit
EB2312082-025	0207_SD007_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	0207_SW066_230419	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	0207_SW043_230419	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-022	0207_SW066_230419	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	0207_SW043_230419	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	0207_SW066_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	0207_SW043_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408) - continued									
EB2312082-024	0207_SW043_230419	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	0207_SW066_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	0207_SW043_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	0207_SW066_230419	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	0207_SW043_230419	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5009041)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	119	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	118	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	115	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	121	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	109	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	115	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5009041)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	110	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	123	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	123	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	128	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5009041)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	126	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	124	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	116	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	125	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	131	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5009041)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5009041) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	93.2	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	104	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	108	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	110	54.8	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	103	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	# 124	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	91.1	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	108	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# 12.6	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	87.9	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	94.3	71.0	135

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Acceptable Limits (%) Low	Matrix Spike (MS) Report: Acceptable Limits (%) High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5009041) - continued							
EB2312057-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	105	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	89.6	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	95.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	89.6	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	117	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	133	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	127	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	118	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# 210	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	98.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	109	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	# 145	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	101	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	92.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	97.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	100	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	109	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	116	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	112	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	130	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	90.4	70.0	130

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Acceptable Limits (%) Low	Matrix Spike (MS) Report: Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	0207_SW040_230419	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	0207_SW040_230419	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							
EB2312082-027	0207_SW040_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	0207_SW040_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CM**	Page	: 1 of 15
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5009042)									
EB2312057-001	Anonymous	EA055: Moisture Content	----	0.1	%	42.7	43.6	2.1	0% - 20%
EB2312082-026	Anonymous	EA055: Moisture Content	----	0.1	%	32.6	32.4	0.3	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0208	<0.0208	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.346	0.284	19.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.143	0.122	15.6	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	7.22	6.55	9.7	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
EB2312082-025	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	0.0008	47.8	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0130	0.0117	10.4	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0351	0.0351	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0104	0.0117	11.9	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0520	0.0507	2.4	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.138	0.126	8.8	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0260	0.0286	9.6	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5009041) - continued									
EB2312029-002	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.050	<0.050	0.0	No Limit
EB2312082-025	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0248	<0.0248	0.0	No Limit
EB2312082-025	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5009041)									
EB2312029-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0099	<0.0099	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0260	0.0325	22.3	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0099	0.0117	16.6	No Limit
EB2312082-025	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	0207_SW056_230418	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	0207_QC110_230418	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-034	0207_QC110_230418	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	0207_SW056_230418	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-034	0207_QC110_230418	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	0207_QC110_230418	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	0207_SW056_230418	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	0207_QC110_230418	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	0207_SW056_230418	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	0207_QC110_230418	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	0207_SW056_230418	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	0207_QC110_230418	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5009041)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	119	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	118	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	115	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	121	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	109	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	115	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5009041)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	110	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	123	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	123	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	128	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5009041)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	126	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	124	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	116	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	125	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	131	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5009041)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5009041) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	93.2	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	104	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	108	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	110	54.8	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	103	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	# 124	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	91.1	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	108	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# 12.6	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	87.9	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	94.3	71.0	135

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Acceptable Limits (%) Low	Matrix Spike (MS) Report: Acceptable Limits (%) High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5009041) - continued							
EB2312057-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	105	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	89.6	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	95.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	89.6	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	117	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	133	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	127	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	118	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# 210	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	98.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	109	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	# 145	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	101	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	92.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	97.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	100	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	109	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5009041)							
EB2312057-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	116	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	112	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	130	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	90.4	70.0	130

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Acceptable Limits (%) Low	Matrix Spike (MS) Report: Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	0207_SW057_230418	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	0207_SW057_230418	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							
EB2312082-011	0207_SW057_230418	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	0207_SW057_230418	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	0207_SW057_230418	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CN**	Page	: 1 of 11
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: MR [redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CO**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CP**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CQ**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CR**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CS**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CT**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CU**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CV**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CW**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: +[redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CX**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CY**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-CZ**	Page	: 1 of 9
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 6		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012415)									
EB2311942-003	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.12	0.12	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012415)									
EB2311942-003	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012415)									
EB2311942-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012415)									
EB2311942-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5012415)									
EB2311942-003	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.20	0.20	0.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.14	0.14	0.0	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.17	0.17	0.0	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012415)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	122	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	116	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	128	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	132	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	133	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	122	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012415)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	120	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	124	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	129	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	129	72.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012415) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	122	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	125	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	128	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	132	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	133	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	123	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012415)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	133	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	122	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	66.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	121	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	113	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	# 137	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	127	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012415)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	140	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	135	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	# 141	64.2	133
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5012415)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-DA**	Page	: 1 of 7
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620) - continued									
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620) - continued									
EB2312082-009	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130

QUALITY CONTROL REPORT

Work Order	: **EB2312082-DB**	Page	: 1 of 11
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 24-Apr-2023
C-O-C number	: ----	Issue Date	: 30-May-2023
Sampler	[redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.69	0.65	5.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.04	44.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5012408) - continued									
EB2312082-034	Anonymous	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5012408) - continued									
EB2312082-024	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2312082-034	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010620)									
EB2312082-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2312082-022	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.36	1.33	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.03	1.00	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.28	1.25	2.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 5012408)									
EB2312082-024	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2312082-034	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	80.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	115	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	85.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.2	64.2	133

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133
EP231P: PFAS Sums (QCLot: 5010620)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5012408)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	101	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010620) - continued							
EB2312082-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	105	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.6	59.0	135

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5012408) - continued							
EB2312082-027	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010620)							
EB2312082-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	119	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5012408)							
EB2312082-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	93.6	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2312082**	Page	: 1 of 10
Amendment	: **7**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Site	: ----	Issue Date	: 30-May-2023
Sampler	: [redacted]	No. of samples received	: 47
Order number	: 60612563 2.1	No. of samples analysed	: 47

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2312057--001	Anonymous	**Perfluoropentane sulfonic acid (PFPeS)**	2706-91-4	124 %	73.0-123%	**Recovery greater than upper data quality objective**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2312057--001	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	12.6 %	68.0-136%	**Recovery less than lower data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EB2312057--001	Anonymous	**Perfluorotridecanoic acid (PFTrDA)**	72629-94-8	210 %	66.0-139%	**Recovery greater than upper data quality objective**
EP231C: Perfluoroalkyl Sulfonamides	EB2312057--001	Anonymous	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	31506-32-8	145 %	70.0-130%	**Recovery greater than upper data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP231C: Perfluoroalkyl Sulfonamides	QC-5012415-002	----	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	2355-31-9	137 %	65.0-136%	**Recovery greater than upper control limit**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-5012415-002	----	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	141 %	64.2-133%	**Recovery greater than upper control limit**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	5	57	8.77	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	57	3.51	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055) 0207_SD018_230418, 0207_SD017_230418, 0207_QC111_230418	**18-Apr-2023**	**----**	----	----	**24-Apr-2023**	02-May-2023	✓
HDPE Soil Jar (EA055) 0207_SD022_230419, 0207_SD007_230419, 0207_SD106_230419, 0207_SD040_230419	**19-Apr-2023**	**----**	----	----	**24-Apr-2023**	03-May-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) 0207_SD018_230418, 0207_SD017_230418, 0207_QC111_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
HDPE Soil Jar (EP231X) 0207_SD022_230419, 0207_SD007_230419, 0207_SD106_230419, 0207_SD040_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) 0207_SD018_230418, 0207_SD017_230418, 0207_QC111_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
HDPE Soil Jar (EP231X) 0207_SD022_230419, 0207_SD007_230419, 0207_SD106_230419, 0207_SD040_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) 0207_SD018_230418, 0207_SD017_230418, 0207_QC111_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
HDPE Soil Jar (EP231X) 0207_SD022_230419, 0207_SD007_230419, 0207_SD106_230419, 0207_SD040_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) 0207_SD018_230418, 0207_SD017_230418, 0207_QC111_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
HDPE Soil Jar (EP231X) 0207_SD022_230419, 0207_SD007_230419, 0207_SD106_230419, 0207_SD040_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) 0207_SD018_230418, 0207_SD017_230418, 0207_QC111_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓
HDPE Soil Jar (EP231X) 0207_SD022_230419, 0207_SD007_230419, 0207_SD106_230419, 0207_SD040_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**02-May-2023**	06-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW293_230417, 0207_MW056_230417, 0207_MW292_230417, 0207_MW021_230417, 0207_MW019_230417, 0207_MW147_230417, 0207_MW151_230417, 0207_MW032_230417	**17-Apr-2023**	**26-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC109_230417, 0207_QC305_230417	**17-Apr-2023**	**27-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW056_230418, 0207_SW057_230418, 0207_MW003_230418, 0207_MW283_230418, 0207_MW295_230418, 0207_MW288_230418, 0207_MW268_230418, 0207_MW294_230418, 0207_MW269_230418	**18-Apr-2023**	**26-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC110_230418, 0207_QC306_230418, 0207_MW267_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 1435_MW005_230419, 0207_SW066_230419	**19-Apr-2023**	**26-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW043_230419, 0207_SW040_230419, 0207_MW290_230419, 0207_MW134_230419, 0207_MW291_230419, 1435_MW012_230419, 1435_QC112_230419, 0207_QC307_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC113_230420, 0207_QC114_230420, 0207_MW149_230420, 0207_MW113_230420, 0207_MW118_230420, 0207_MW114_230420, 0207_MW157_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**03-May-2023**	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW122_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**28-Apr-2023**	17-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW293_230417, 0207_MW056_230417, 0207_MW292_230417, 0207_MW021_230417, 0207_MW019_230417, 0207_MW147_230417, 0207_MW151_230417, 0207_MW032_230417	**17-Apr-2023**	**26-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC109_230417, 0207_QC305_230417	**17-Apr-2023**	**27-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW056_230418, 0207_SW057_230418, 0207_MW003_230418, 0207_MW283_230418, 0207_MW295_230418, 0207_MW288_230418, 0207_MW268_230418, 0207_MW294_230418, 0207_MW269_230418	**18-Apr-2023**	**26-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC110_230418, 0207_QC306_230418, 0207_MW267_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 1435_MW005_230419, 0207_SW066_230419	**19-Apr-2023**	**26-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW043_230419, 0207_SW040_230419, 0207_MW290_230419, 0207_MW134_230419, 0207_MW291_230419, 1435_MW012_230419, 1435_QC112_230419, 0207_QC307_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC113_230420, 0207_QC114_230420, 0207_MW149_230420, 0207_MW113_230420, 0207_MW118_230420, 0207_MW114_230420, 0207_MW157_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**03-May-2023**	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW122_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**28-Apr-2023**	17-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW293_230417, 0207_MW056_230417, 0207_MW292_230417, 0207_MW021_230417, 0207_MW019_230417, 0207_MW147_230417, 0207_MW151_230417, 0207_MW032_230417	**17-Apr-2023**	**26-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC109_230417, 0207_QC305_230417	**17-Apr-2023**	**27-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW056_230418, 0207_SW057_230418, 0207_MW003_230418, 0207_MW283_230418, 0207_MW295_230418, 0207_MW288_230418, 0207_MW268_230418, 0207_MW294_230418, 0207_MW269_230418	**18-Apr-2023**	**26-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC110_230418, 0207_QC306_230418, 0207_MW267_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 1435_MW005_230419, 0207_SW066_230419	**19-Apr-2023**	**26-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW043_230419, 0207_SW040_230419, 0207_MW290_230419, 0207_MW134_230419, 0207_MW291_230419, 1435_MW012_230419, 1435_QC112_230419, 0207_QC307_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC113_230420, 0207_QC114_230420, 0207_MW149_230420, 0207_MW113_230420, 0207_MW118_230420, 0207_MW114_230420, 0207_MW157_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**03-May-2023**	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW122_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**28-Apr-2023**	17-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW293_230417, 0207_MW056_230417, 0207_MW292_230417, 0207_MW021_230417, 0207_MW019_230417, 0207_MW147_230417, 0207_MW151_230417, 0207_MW032_230417	**17-Apr-2023**	**26-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC109_230417, 0207_QC305_230417	**17-Apr-2023**	**27-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW056_230418, 0207_SW057_230418, 0207_MW003_230418, 0207_MW283_230418, 0207_MW295_230418, 0207_MW288_230418, 0207_MW268_230418, 0207_MW294_230418, 0207_MW269_230418	**18-Apr-2023**	**26-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC110_230418, 0207_QC306_230418, 0207_MW267_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 1435_MW005_230419, 0207_SW066_230419	**19-Apr-2023**	**26-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW043_230419, 0207_SW040_230419, 0207_MW290_230419, 0207_MW134_230419, 0207_MW291_230419, 1435_MW012_230419, 1435_QC112_230419, 0207_QC307_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC113_230420, 0207_QC114_230420, 0207_MW149_230420, 0207_MW113_230420, 0207_MW118_230420, 0207_MW114_230420, 0207_MW157_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**03-May-2023**	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW122_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**28-Apr-2023**	17-Oct-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW293_230417, 0207_MW056_230417, 0207_MW292_230417, 0207_MW021_230417, 0207_MW019_230417, 0207_MW147_230417, 0207_MW151_230417, 0207_MW032_230417	**17-Apr-2023**	**26-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC109_230417, 0207_QC305_230417	**17-Apr-2023**	**27-Apr-2023**	14-Oct-2023	✓	**03-May-2023**	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW056_230418, 0207_SW057_230418, 0207_MW003_230418, 0207_MW283_230418, 0207_MW295_230418, 0207_MW288_230418, 0207_MW268_230418, 0207_MW294_230418, 0207_MW269_230418	**18-Apr-2023**	**26-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC110_230418, 0207_QC306_230418, 0207_MW267_230418	**18-Apr-2023**	**27-Apr-2023**	15-Oct-2023	✓	**03-May-2023**	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 1435_MW005_230419, 0207_SW066_230419	**19-Apr-2023**	**26-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_SW043_230419, 0207_SW040_230419, 0207_MW290_230419, 0207_MW134_230419, 0207_MW291_230419, 1435_MW012_230419, 1435_QC112_230419, 0207_QC307_230419	**19-Apr-2023**	**27-Apr-2023**	16-Oct-2023	✓	**03-May-2023**	16-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_QC113_230420, 0207_QC114_230420, 0207_MW149_230420, 0207_MW113_230420, 0207_MW118_230420, 0207_MW114_230420, 0207_MW157_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**03-May-2023**	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0207_MW122_230420	**20-Apr-2023**	**27-Apr-2023**	17-Oct-2023	✓	**28-Apr-2023**	17-Oct-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	57	**8.77**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	57	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	57	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	57	**3.51**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2314294**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: + [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP	Page	: 1 of 2
Order number	: ----	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: AECOM		

Dates

Date Samples Received	: 12-May-2023 11:13	Issue Date	: 12-May-2023
Client Requested Due Date	: 22-May-2023	Scheduled Reporting Date	: **22-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 4.0°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2314294-001	10-May-2023 00:00	0207_MW270_230510	✓
EB2314294-002	10-May-2023 00:00	0207_MW271_230510	✓
EB2314294-003	10-May-2023 00:00	0207_QC308_230510	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP reports

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2314294**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: + [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP	Date Samples Received	: 12-May-2023 11:13
Order number	: 60612563 2.1	Date Analysis Commenced	: 12-May-2023
C-O-C number	: ----	Issue Date	: 22-May-2023 09:28
Sampler	: AECOM		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: High 10:2 FTS laboratory control standard recovery deemed acceptable as associated sample analyte results are less than the limit of reporting.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW270_230510	0207_MW271_230510	0207_QC308_230510	----	----
				Sampling date / time	10-May-2023 00:00	10-May-2023 00:00	10-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2314294-001	EB2314294-002	EB2314294-003	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW270_230510	0207_MW271_230510	0207_QC308_230510	----	----
				Sampling date / time	10-May-2023 00:00	10-May-2023 00:00	10-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2314294-001	EB2314294-002	EB2314294-003	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.06**	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.06**	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.06**	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**92.9**	**93.1**	**79.5**	----	----
13C8-PFOA	----	0.02	%		**103**	**103**	**86.1**	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2314294**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP	Date Samples Received	: 12-May-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 12-May-2023
C-O-C number	: ----	Issue Date	: 22-May-2023
Sampler	: AECOM		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5047744)									
EB2313484-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.24	0.21	13.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2314270-005	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.30	0.30	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.18	0.19	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5047744)									
EB2313484-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5047744) - continued									
EB2314270-005	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5047744)									
EB2313484-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2314270-005	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5047744)									
EB2313484-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5047744) - continued									
EB2313484-001	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.29	0.19	40.8	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.06	0.08	24.2	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2314270-005	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5047744)									
EB2313484-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.76	0.64	17.1	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.26	0.23	12.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.73	0.61	17.9	0% - 50%
EB2314270-005	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.66	0.65	1.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.48	0.49	2.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.61	0.60	1.7	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5047744)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	127	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	121	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	130	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.9	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	126	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5047744)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	105	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	121	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	125	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	133	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	132	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5047744)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	116	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	90.5	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	111	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	138	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	135	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	129	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5047744)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5047744) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	139	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	113	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	136	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	# 138	64.2	133
EP231P: PFAS Sums (QCLot: 5047744)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5047744)							
EB2313484-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	128	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	123	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	112	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	112	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	82.1	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	99.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5047744)							
EB2313484-003	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	85.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	98.7	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	107	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	106	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	106	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	112	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	114	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	118	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	112	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	106	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5047744)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5047744) - continued							
EB2313484-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	105	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	97.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	95.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	108	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	109	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	110	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5047744)							
EB2313484-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	113	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	98.9	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	70.4	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2314294**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP	Date Samples Received	: 12-May-2023
Site	: ----	Issue Date	: 22-May-2023
Sampler	: AECOM	No. of samples received	: 3
Order number	: 60612563 2.1	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-5047744-002	----	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	138 %	64.2-133%	**Recovery greater than upper control limit**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0207_MW270_230510, 0207_QC308_230510	0207_MW271_230510,	**10-May-2023**	**15-May-2023**	06-Nov-2023	✓	**17-May-2023**	06-Nov-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0207_MW270_230510, 0207_QC308_230510	0207_MW271_230510,	**10-May-2023**	**15-May-2023**	06-Nov-2023	✓	**17-May-2023**	06-Nov-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0207_MW270_230510, 0207_QC308_230510	0207_MW271_230510,	**10-May-2023**	**15-May-2023**	06-Nov-2023	✓	**17-May-2023**	06-Nov-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0207_MW270_230510, 0207_QC308_230510	0207_MW271_230510,	**10-May-2023**	**15-May-2023**	06-Nov-2023	✓	**17-May-2023**	06-Nov-2023	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0207_MW270_230510, 0207_QC308_230510	0207_MW271_230510,	**10-May-2023**	**15-May-2023**	06-Nov-2023	✓	**17-May-2023**	06-Nov-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer: AECOM AUSTRALIA PTY LTD

Address: [redacted]

Email: [redacted]

Telephone: [redacted]

Fax:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: [redacted]

Address: [redacted]

Email: [redacted]

Telephone: [redacted]

Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/230321

Total No. of Samples: 4

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/005435	28-MAR-2023	0207_QC200_230315	WATER 15/03/2023
N23/005436	28-MAR-2023	0207_QC201_230315	SOIL 15/03/2023
N23/005437	28-MAR-2023	0207_QC202_230315	WATER 15/03/2023
N23/005438	28-MAR-2023	0207_QC203_230315	SOIL 15/03/2023

SAMPLE RECEIVED CONDITION

Date samples received:	21-MAR-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	QLD_0207_PFASOMP
Client purchase order number:	60612563_2_1
Temperature of samples:	Chilled
Comments:	ALL OK
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

REPORT OF ANALYSIS

Report No. RN1387358

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO06/230321
	[redacted]	**Quote No.**	: QT-02232
	[redacted]	**Order No.**	: 60612563_2_1
		Date Received	: 21-MAR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: QLD_0207_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/005436	0207_QC201_230315	SOIL 15/03/2023
N23/005438	0207_QC203_230315	SOIL 15/03/2023

Lab Reg No.		N23/005436	N23/005438			
Date Sampled		15-MAR-2023	15-MAR-2023			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002	<0.002			NR70
PFPeA (2706-90-3)	mg/kg	<0.002	<0.002			NR70
PFHxA (307-24-4)	mg/kg	<0.001	<0.001			NR70
PFHpA (375-85-9)	mg/kg	<0.001	<0.001			NR70
PFOA (335-67-1)	mg/kg	<0.001	<0.001			NR70
PFNA (375-95-1)	mg/kg	<0.001	<0.001			NR70
PFDA (335-76-2)	mg/kg	<0.001	<0.001			NR70
PFUdA (2058-94-8)	mg/kg	<0.002	<0.002			NR70
PFDoA (307-55-1)	mg/kg	<0.002	<0.002			NR70
PFTrDA (72629-94-8)	mg/kg	<0.002	<0.002			NR70
PFTeDA (376-06-7)	mg/kg	<0.002	<0.002			NR70
PFHxDA (67905-19-5)	mg/kg	<0.002	<0.002			NR70
PFODA (16517-11-6)	mg/kg	<0.005	<0.005			NR70
FOUEA (70887-84-2)	mg/kg	<0.001	<0.001			NR70
PFBS (375-73-5)	mg/kg	<0.001	<0.001			NR70
PFPeS (2706-91-4)	mg/kg	<0.001	<0.001			NR70
PFHxS (355-46-4)	mg/kg	<0.001	0.0076			NR70
PFHpS (375-92-8)	mg/kg	<0.001	<0.001			NR70
PFOS (1763-23-1)	mg/kg	0.011	0.073			NR70
PFNS (68259-12-1)	mg/kg	<0.001	<0.001			NR70
PFDS (335-77-3)	mg/kg	<0.001	<0.001			NR70
PFOSA (754-91-6)	mg/kg	<0.001	<0.001			NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002	<0.002			NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002	<0.002			NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002	<0.002			NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002	<0.002			NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005	<0.005			NR70
N-EtFOSE (1691-99-2)	mg/kg	<0.005	<0.005			NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001	<0.001			NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/005436	N23/005438			
Date Sampled		15-MAR-2023	15-MAR-2023			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	mg/kg	<0.001	<0.001			NR70
8:2 FTS (39108-34-4)	mg/kg	<0.001	<0.001			NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002	<0.002			NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002	<0.002			NR70
PFBA (Surrogate Recovery)	%	123	124			NR70
PFPeA (Surrogate Recovery)	%	123	119			NR70
PFHxA (Surrogate Recovery)	%	129	133			NR70
PFHpA (Surrogate Recovery)	%	123	124			NR70
PFOA (Surrogate Recovery)	%	125	123			NR70
PFNA (Surrogate Recovery)	%	123	126			NR70
PFDA (Surrogate Recovery)	%	126	125			NR70
PFUdA (Surrogate Recovery)	%	113	100			NR70
PFDoA (Surrogate Recovery)	%	119	86			NR70
PFTeDA (Surrogate Recovery)	%	119	110			NR70
PFHxDA (Surrogate Recovery)	%	127	50			NR70
FOUEA (Surrogate Recovery)	%	101	95			NR70
PFBS (Surrogate Recovery)	%	127	133			NR70
PFHxS (Surrogate Recovery)	%	112	122			NR70
PFOS (Surrogate Recovery)	%	124	123			NR70
PFOSA (Surrogate Recovery)	%	119	64			NR70
N-MeFOSA (Surrogate Recovery)	%	124	95			NR70
N-EtFOSA (Surrogate Recovery)	%	123	77			NR70
N-MeFOSAA (Surrogate Recovery)	%	116	111			NR70
N-EtFOSAA (Surrogate Recovery)	%	107	109			NR70
N-MeFOSE (Surrogate Recovery)	%	118	101			NR70
N-EtFOSE (Surrogate Recovery)	%	118	81			NR70
4:2 FTS (Surrogate Recovery)	%	104	109			NR70
6:2 FTS (Surrogate Recovery)	%	103	105			NR70
8:2 FTS (Surrogate Recovery)	%	101	105			NR70
8:2 diPAP (Surrogate Recovery)	%	126	142			NR70
Dates						
Date extracted		22-MAR-2023	22-MAR-2023			
Date analysed		23-MAR-2023	23-MAR-2023			

N23/005436
to
N23/005438

PFOS and PFHxS are quantified using a combined branched and linear standard,

linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

[redacted]

Organics - NSW
Accreditation No. 198

29-MAR-2023

Lab Reg No.		N23/005436	N23/005438			
Date Sampled		15-MAR-2023	15-MAR-2023			
	Units					Method
Trace Elements						
Total Solids	%	44.1	47.5			NT2_49
Dates						
Date extracted		27-MAR-2023	27-MAR-2023			
Date analysed		28-MAR-2023	28-MAR-2023			

[redacted]

Inorganics - NSW
Accreditation No. 198

29-MAR-2023

All results are expressed on a dry weight basis.

REPORT OF ANALYSIS

Report No. RN1387358

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO06/230321
	[redacted]	**Quote No.**	: QT-02232
	[redacted]	**Order No.**	: 60612563_2_1
		Date Received	: 21-MAR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: QLD_0207_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/005435	0207_QC200_230315	WATER 15/03/2023
N23/005437	0207_QC202_230315	WATER 15/03/2023

Lab Reg No.			N23/005435	N23/005437			
Date Sampled			15-MAR-2023	15-MAR-2023			
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)		ug/L	<0.05	<0.05			NR70
PFPeA (2706-90-3)		ug/L	<0.02	<0.02			NR70
PFHxA (307-24-4)		ug/L	0.058	0.046			NR70
PFHpA (375-85-9)		ug/L	<0.01	0.012			NR70
PFOA (335-67-1)		ug/L	0.011	0.045			NR70
PFNA (375-95-1)		ug/L	<0.01	<0.01			NR70
PFDA (335-76-2)		ug/L	<0.01	<0.01			NR70
PFUdA (2058-94-8)		ug/L	<0.01	<0.01			NR70
PFDoA (307-55-1)		ug/L	<0.01	<0.01			NR70
PFTrDA (72629-94-8)		ug/L	<0.02	<0.02			NR70
PFTeDA (376-06-7)		ug/L	<0.02	<0.02			NR70
PFHxDA (67905-19-5)		ug/L	<0.02	<0.02			NR70
PFODA (16517-11-6)		ug/L	<0.05	<0.05			NR70
FOUEA (70887-84-2)		ug/L	<0.01	<0.01			NR70
PFDS (335-77-3)		ug/L	<0.01	<0.01			NR70
PFPeS (2706-91-4)		ug/L	0.023	0.026			NR70
PFHxS (355-46-4)		ug/L	0.15	0.27			NR70
PFHpS (375-92-8)		ug/L	<0.01	0.030			NR70
PFOS (1763-23-1)		ug/L	0.48	1.7			NR70
PFNS (68259-12-1)		ug/L	<0.01	<0.01			NR70
PFBS (375-73-5)		ug/L	0.038	0.018			NR70
PFOSA (754-91-6)		ug/L	<0.01	<0.01			NR70
N-MeFOSA (31506-32-8)		ug/L	<0.02	<0.02			NR70
N-EtFOSA (4151-50-2)		ug/L	<0.02	<0.02			NR70
N-MeFOSAA (2355-31-9)		ug/L	<0.01	<0.01			NR70
N-EtFOSAA(2991-50-6)		ug/L	<0.01	<0.01			NR70
N-MeFOSE (24448-09-7)		ug/L	<0.05	<0.05			NR70
N-EtFOSE (1691-99-2)		ug/L	<0.05	<0.05			NR70
4:2 FTS (757124-72-4)		ug/L	<0.01	<0.01			NR70

REPORT OF ANALYSIS

Lab Reg No.			N23/005435	N23/005437			
Date Sampled			15-MAR-2023	15-MAR-2023			
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
6:2 FTS (27619-97-2)		ug/L	<0.01	<0.01			NR70
8:2 FTS (39108-34-4)		ug/L	<0.01	<0.01			NR70
10:2 FTS (120226-60-0)		ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)		ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)		%	99	95			NR70
PFPeA (Surrogate Recovery)		%	113	103			NR70
PFHxA (Surrogate Recovery)		%	100	94			NR70
PFHpA (Surrogate Recovery)		%	98	92			NR70
PFOA (Surrogate Recovery)		%	99	100			NR70
PFNA (Surrogate Recovery)		%	97	94			NR70
PFDA (Surrogate Recovery)		%	86	89			NR70
PFUdA (Surrogate Recovery)		%	75	84			NR70
PFDoA (Surrogate Recovery)		%	66	66			NR70
PFTeDA (Surrogate Recovery)		%	76	71			NR70
PFHxDA (Surrogate Recovery)		%	95	89			NR70
FOUEA (Surrogate Recovery)		%	78	77			NR70
PFBS (Surrogate Recovery)		%	95	96			NR70
PFHxS (Surrogate Recovery)		%	100	96			NR70
PFOS (Surrogate Recovery)		%	94	91			NR70
PFOSA (Surrogate Recovery)		%	62	59			NR70
N-MeFOSA (Surrogate Recovery)		%	63	53			NR70
N-EtFOSA (Surrogate Recovery)		%	61	52			NR70
N-MeFOSAA (Surrogate Recovery)		%	67	68			NR70
N-EtFOSAA (Surrogate Recovery)		%	63	62			NR70
N-MeFOSE (Surrogate Recovery)		%	60	52			NR70
N-EtFOSE (Surrogate Recovery)		%	61	54			NR70
4:2 FTS (Surrogate Recovery)		%	132	136			NR70
6:2 FTS (Surrogate Recovery)		%	97	101			NR70
8:2 FTS (Surrogate Recovery)		%	76	79			NR70
8:2 diPAP (Surrogate Recovery)		%	96	96			NR70
Dates							
Date extracted			28-MAR-2023	28-MAR-2023			
Date analysed			28-MAR-2023	28-MAR-2023			

N23/005435
to
N23/005437

PFOS and PFHxS are quantified using a combined branched and linear standard,

linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

[redacted]

Organics - NSW
Accreditation No. 198

29-MAR-2023

NATA
WORLD RECOGNISED
ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1387263*

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/230321 **Sample Matrix:** Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		mg/kg	mg/kg	mg/kg	mg/kg	%	%	%
PFBA (375-22-4)	NR70	0.002	<0.002	NA	NA	NA	109	NA
PFPeA (2706-90-3)	NR70	0.002	<0.002	NA	NA	NA	107	NA
PFHxA (307-24-4)	NR70	0.001	<0.001	NA	NA	NA	105	NA
PFHpA (375-85-9)	NR70	0.001	<0.001	NA	NA	NA	101	NA
PFOA (335-67-1)	NR70	0.001	<0.001	NA	NA	NA	108	NA
PFNA (375-95-1)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFDA (335-76-2)	NR70	0.001	<0.001	NA	NA	NA	103	NA
PFUdA (2058-94-8)	NR70	0.002	<0.002	NA	NA	NA	99	NA
PFDoA (307-55-1)	NR70	0.002	<0.002	NA	NA	NA	114	NA
PFTrDA (72629-94-8)	NR70	0.002	<0.002	NA	NA	NA	107	NA
PFTeDA (376-06-7)	NR70	0.002	<0.002	NA	NA	NA	106	NA
PFHxDA (67905-19-5)	NR70	0.002	<0.002	NA	NA	NA	87	NA
PFODA (16517-11-6)	NR70	0.005	<0.005	NA	NA	NA	81	NA
FOUEA (70887-84-2)	NR70	0.001	<0.001	NA	NA	NA	90	NA
PFBS (375-73-5)	NR70	0.001	<0.001	NA	NA	NA	109	NA
PFPeS (2706-91-4)	NR70	0.001	<0.001	NA	NA	NA	100	NA
PFHxS (355-46-4)	NR70	0.001	<0.001	NA	NA	NA	100	NA
PFHpS (375-92-8)	NR70	0.001	<0.001	NA	NA	NA	113	NA
PFOS (1763-23-1)	NR70	0.002	<0.002	NA	NA	NA	98	NA
PFNS (68259-12-1)	NR70	0.001	<0.001	NA	NA	NA	99	NA
PFDS (335-77-3)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFOSA (754-91-6)	NR70	0.001	<0.001	NA	NA	NA	101	NA
N-MeFOSA (31506-32-8)	NR70	0.002	<0.002	NA	NA	NA	104	NA
N-EtFOSA (4151-50-2)	NR70	0.002	<0.002	NA	NA	NA	96	NA
N-MeFOSAA (2355-31-9)	NR70	0.002	<0.002	NA	NA	NA	104	NA
N-EtFOSAA(2991-50-6)	NR70	0.002	<0.002	NA	NA	NA	111	NA
N-MeFOSE (24448-09-7)	NR70	0.005	<0.005	NA	NA	NA	93	NA
N-EtFOSE (1691-99-2)	NR70	0.005	<0.005	NA	NA	NA	94	NA
4:2 FTS (757124-72-4)	NR70	0.001	<0.001	NA	NA	NA	113	NA
6:2 FTS (27619-97-2)	NR70	0.001	<0.001	NA	NA	NA	104	NA
8:2 FTS (39108-34-4)	NR70	0.001	<0.001	NA	NA	NA	103	NA
10:2 FTS (120226-60-0)	NR70	0.002	<0.002	NA	NA	NA	103	NA
8:2 diPAP (678-41-1)	NR70	0.002	<0.002	NA	NA	NA	90	NA

Results expressed in percentage (%) or mg/kg wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **28/03/2023**

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/230321 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	112	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	102	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	103	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	103	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	98	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	103	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	112	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	105	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	92	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	96	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	90	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	97	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	106	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	92	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	100	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	95	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	91	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	104	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	101	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	89	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	85	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	110	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	107	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	90	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	76	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	94	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **28/03/2023**

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention:

Customer: AECOM AUSTRALIA PTY LTD

Address: [redacted]

Email: DERP.labreports@esdat.com.au

Telephone:

Fax:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: [redacted]

Address: [redacted]

Email: [redacted]

Telephone: [redacted]

Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/230419

Total No. of Samples: 6

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/007674	27-APR-2023	0207_QC203_230412	WATER 12.04.23
N23/007675	27-APR-2023	0207_QC204_230412	WATER 12.04.23
N23/007676	27-APR-2023	0207_QC205_230413	WATER 13.04.23
N23/007677	27-APR-2023	0207_QC206_230412	WATER 13.04.23
N23/007678	27-APR-2023	0207_QC207_230412	WATER 13.04.23
N23/007679	27-APR-2023	0207_QC208_230412	WATER 14.04.23

SAMPLE RECEIVED CONDITION

Date samples received:	19-APR-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	QLD_0207_PFASOMP
Client purchase order number:	60612563_2_1
Temperature of samples:	Chilled
Comments:	all ok
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

REPORT OF ANALYSIS

Report No. RN1390586

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO06/230419
	[redacted]	**Quote No.**	: QT-02018
	[redacted]	**Order No.**	: 60612563_2_1
		Date Received	: 19-APR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: QLD_0207_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/007674	0207_QC203_230412	WATER 12.04.23
N23/007675	0207_QC204_230412	WATER 12.04.23
N23/007676	0207_QC205_230413	WATER 13.04.23
N23/007677	0207_QC206_230413	WATER 13.04.23

Lab Reg No.		N23/007674	N23/007675	N23/007676	N23/007677	
Date Sampled		12-APR-2023	12-APR-2023	13-APR-2023	13-APR-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.21	10	0.053	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.24	14	0.031	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.99	63	0.10	0.012	NR70
PFHpA (375-85-9)	ug/L	0.16	11	0.016	<0.01	NR70
PFOA (335-67-1)	ug/L	0.31	24	0.037	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	0.071	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.52	59	0.12	0.017	NR70
PFHxS (355-46-4)	ug/L	2.2	330	0.79	0.12	NR70
PFHpS (375-92-8)	ug/L	0.20	21	0.020	<0.01	NR70
PFOS (1763-23-1)	ug/L	3.2	71	0.25	0.078	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.57	52	0.14	0.012	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/007674	N23/007675	N23/007676	N23/007677	
Date Sampled		12-APR-2023	12-APR-2023	13-APR-2023	13-APR-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	0.012	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	1.7	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	90	91	92	96	NR70
PFPeA (Surrogate Recovery)	%	89	93	96	91	NR70
PFHxA (Surrogate Recovery)	%	87	50	91	93	NR70
PFHpA (Surrogate Recovery)	%	90	64	91	94	NR70
PFOA (Surrogate Recovery)	%	92	80	92	94	NR70
PFNA (Surrogate Recovery)	%	90	69	89	91	NR70
PFDA (Surrogate Recovery)	%	88	91	87	95	NR70
PFUdA (Surrogate Recovery)	%	96	90	88	95	NR70
PFDoA (Surrogate Recovery)	%	91	95	81	92	NR70
PFTeDA (Surrogate Recovery)	%	89	92	73	87	NR70
PFHxDA (Surrogate Recovery)	%	95	148	83	88	NR70
FOUEA (Surrogate Recovery)	%	82	134	74	81	NR70
PFBS (Surrogate Recovery)	%	83	61	80	81	NR70
PFHxS (Surrogate Recovery)	%	83	78	84	92	NR70
PFOS (Surrogate Recovery)	%	93	114	90	97	NR70
PFOSA (Surrogate Recovery)	%	85	85	73	83	NR70
N-MeFOSA (Surrogate Recovery)	%	92	154	70	82	NR70
N-EtFOSA (Surrogate Recovery)	%	77	136	58	73	NR70
N-MeFOSAA (Surrogate Recovery)	%	84	87	66	84	NR70
N-EtFOSAA (Surrogate Recovery)	%	96	93	68	90	NR70
N-MeFOSE (Surrogate Recovery)	%	80	143	68	81	NR70
N-EtFOSE (Surrogate Recovery)	%	81	137	62	79	NR70
4:2 FTS (Surrogate Recovery)	%	82	76	96	94	NR70
6:2 FTS (Surrogate Recovery)	%	76	134	78	79	NR70
8:2 FTS (Surrogate Recovery)	%	78	81	85	79	NR70
8:2 diPAP (Surrogate Recovery)	%	83	79	70	74	NR70
Dates						
Date extracted		26-APR-2023	26-APR-2023	26-APR-2023	26-APR-2023	
Date analysed		26-APR-2023	26-APR-2023	26-APR-2023	26-APR-2023	

N23/007674
to
N23/007679

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
High PFAS surrogate recoveries accepted - results corrected for recovery.

[redacted]

Organics - NSW
Accreditation No. 198

27-APR-2023

REPORT OF ANALYSIS

Report No. RN1390586

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO06/230419
	[redacted]	**Quote No.**	: QT-02018
	[redacted]	**Order No.**	: 60612563_2_1
		Date Received	: 19-APR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: QLD_0207_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/007678	0207_QC207_230413	WATER 13.04.23
N23/007679	0207_QC208_230414	WATER 14.04.23

Lab Reg No.		N23/007678	N23/007679			
Date Sampled		13-APR-2023	14-APR-2023			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05			NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02			NR70
PFHxA (307-24-4)	ug/L	0.077	<0.01			NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01			NR70
PFOA (335-67-1)	ug/L	<0.01	<0.01			NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01			NR70
PFPeS (2706-91-4)	ug/L	0.064	<0.01			NR70
PFHxS (355-46-4)	ug/L	0.39	0.013			NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01			NR70
PFOS (1763-23-1)	ug/L	0.11	<0.02			NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01			NR70
PFBS (375-73-5)	ug/L	0.054	<0.01			NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01			NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/007678	N23/007679			
Date Sampled		13-APR-2023	14-APR-2023			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01			NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01			NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)	%	94	96			NR70
PFPeA (Surrogate Recovery)	%	93	112			NR70
PFHxA (Surrogate Recovery)	%	93	81			NR70
PFHpA (Surrogate Recovery)	%	92	88			NR70
PFOA (Surrogate Recovery)	%	93	91			NR70
PFNA (Surrogate Recovery)	%	87	93			NR70
PFDA (Surrogate Recovery)	%	88	88			NR70
PFUdA (Surrogate Recovery)	%	86	81			NR70
PFDoA (Surrogate Recovery)	%	86	78			NR70
PFTeDA (Surrogate Recovery)	%	88	66			NR70
PFHxDA (Surrogate Recovery)	%	87	77			NR70
FOUEA (Surrogate Recovery)	%	81	82			NR70
PFBS (Surrogate Recovery)	%	84	82			NR70
PFHxS (Surrogate Recovery)	%	86	89			NR70
PFOS (Surrogate Recovery)	%	91	96			NR70
PFOSA (Surrogate Recovery)	%	82	72			NR70
N-MeFOSA (Surrogate Recovery)	%	87	67			NR70
N-EtFOSA (Surrogate Recovery)	%	74	56			NR70
N-MeFOSAA (Surrogate Recovery)	%	81	70			NR70
N-EtFOSAA (Surrogate Recovery)	%	87	69			NR70
N-MeFOSE (Surrogate Recovery)	%	83	59			NR70
N-EtFOSE (Surrogate Recovery)	%	83	55			NR70
4:2 FTS (Surrogate Recovery)	%	83	150			NR70
6:2 FTS (Surrogate Recovery)	%	79	104			NR70
8:2 FTS (Surrogate Recovery)	%	77	88			NR70
8:2 diPAP (Surrogate Recovery)	%	59	77			NR70
Dates						
Date extracted		26-APR-2023	26-APR-2023			
Date analysed		26-APR-2023	26-APR-2023			

[redacted]
Organics - NSW
Accreditation No. 198

27-APR-2023

REPORT OF ANALYSIS

This Report supersedes reports: *RN1390566*

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/230419 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	106	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	101	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	98	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	97	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	112	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	96	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	108	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	102	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	102	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	113	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	95	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	101	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	100	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	88	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	105	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	96	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	102	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	104	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	106	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	116	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	97	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	102	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	109	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	111	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **27/04/2023**

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer: AECOM AUSTRALIA PTY LTD

Address: [redacted]

Email: [redacted]

Telephone:

Fax:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: [redacted]

Address: [redacted]

Email: [redacted]

Telephone: [redacted]

Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/230427/1

Total No. of Samples: 6

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/008167	4-MAY-2023	0207_QC209_230417	WATER 17/04/2023
N23/008168	4-MAY-2023	0207_QC210_230418	WATER 18/04/2023
N23/008169	4-MAY-2023	0207_QC211_230418	SEDIMENT 18/04/2023
N23/008170	4-MAY-2023	0207_QC212_230419	WATER 19/04/2023
N23/008171	4-MAY-2023	0207_QC213_230420	WATER 20/04/2023
N23/008172	4-MAY-2023	0207_QC214_230420	WATER 20/04/2023

SAMPLE RECEIVED CONDITION

Date samples received:	27-APR-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	
Client purchase order number:	60612563_2_1
Temperature of samples:	Chilled
Comments:	
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

REPORT OF ANALYSIS

Client	: [redacted]	**Job No.**	: AECO06/230427/1
		Quote No.	: QT-02018
		Order No.	: 60612563_2_1
		Date Received	: 27-APR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: 60612563_2.1		
Your Client Services Manager	: [redacted]	**Phone**	[redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/008169	0207_QC211_230418	SEDIMENT 18/04/2023

Lab Reg No.		N23/008169				
Date Sampled		18-APR-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002				NR70
PFPeA (2706-90-3)	mg/kg	<0.002				NR70
PFHxA (307-24-4)	mg/kg	<0.001				NR70
PFHpA (375-85-9)	mg/kg	<0.001				NR70
PFOA (335-67-1)	mg/kg	<0.001				NR70
PFNA (375-95-1)	mg/kg	<0.001				NR70
PFDA (335-76-2)	mg/kg	<0.001				NR70
PFUdA (2058-94-8)	mg/kg	<0.002				NR70
PFDoA (307-55-1)	mg/kg	<0.002				NR70
PFTrDA (72629-94-8)	mg/kg	<0.002				NR70
PFTeDA (376-06-7)	mg/kg	<0.002				NR70
PFHxDA (67905-19-5)	mg/kg	<0.002				NR70
PFODA (16517-11-6)	mg/kg	<0.005				NR70
FOUEA (70887-84-2)	mg/kg	<0.001				NR70
PFBS (375-73-5)	mg/kg	<0.001				NR70
PFPeS (2706-91-4)	mg/kg	<0.001				NR70
PFHxS (355-46-4)	mg/kg	<0.001				NR70
PFHpS (375-92-8)	mg/kg	<0.001				NR70
PFOS (1763-23-1)	mg/kg	0.0065				NR70
PFNS (68259-12-1)	mg/kg	<0.001				NR70
PFDS (335-77-3)	mg/kg	<0.001				NR70
PFOSA (754-91-6)	mg/kg	<0.001				NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002				NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002				NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002				NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002				NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005				NR70
N-EtFOSE (1691-99-2)	mg/kg	<0.005				NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001				NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001				NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/008169				
Date Sampled		18-APR-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	mg/kg	<0.001				NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002				NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002				NR70
PFBA (Surrogate Recovery)	%	119				NR70
PFPeA (Surrogate Recovery)	%	121				NR70
PFHxA (Surrogate Recovery)	%	127				NR70
PFHpA (Surrogate Recovery)	%	125				NR70
PFOA (Surrogate Recovery)	%	122				NR70
PFNA (Surrogate Recovery)	%	121				NR70
PFDA (Surrogate Recovery)	%	128				NR70
PFUdA (Surrogate Recovery)	%	134				NR70
PFDoA (Surrogate Recovery)	%	134				NR70
PFTeDA (Surrogate Recovery)	%	137				NR70
PFHxDA (Surrogate Recovery)	%	133				NR70
FOUEA (Surrogate Recovery)	%	68				NR70
PFBS (Surrogate Recovery)	%	112				NR70
PFHxS (Surrogate Recovery)	%	123				NR70
PFOS (Surrogate Recovery)	%	120				NR70
PFOSA (Surrogate Recovery)	%	128				NR70
N-MeFOSA (Surrogate Recovery)	%	137				NR70
N-EtFOSA (Surrogate Recovery)	%	118				NR70
N-MeFOSAA (Surrogate Recovery)	%	110				NR70
N-EtFOSAA (Surrogate Recovery)	%	126				NR70
N-MeFOSE (Surrogate Recovery)	%	99				NR70
N-EtFOSE (Surrogate Recovery)	%	97				NR70
4:2 FTS (Surrogate Recovery)	%	105				NR70
6:2 FTS (Surrogate Recovery)	%	101				NR70
8:2 FTS (Surrogate Recovery)	%	115				NR70
8:2 diPAP (Surrogate Recovery)	%	150				NR70
Dates						
Date extracted		1-MAY-2023				
Date analysed		1-MAY-2023				

N23/008169
PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

REPORT OF ANALYSIS

Lab Reg No.		N23/008169				
Date Sampled		18-APR-2023				
	Units					Method

[redacted]

Organics - NSW
Accreditation No. 198

09-MAY-2023

Lab Reg No.		N23/008169				
Date Sampled		18-APR-2023				
	Units					Method
Trace Elements						
Total Solids	%	74.2				NT2_49
Dates						
Date extracted		28-APR-2023				
Date analysed		1-MAY-2023				

[redacted]

Inorganics - NSW
Accreditation No. 198

09-MAY-2023

All results are expressed on a dry weight basis.

REPORT OF ANALYSIS

Report No. RN1391817

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO06/230427/1
	[redacted]	**Quote No.**	: QT-02018
	[redacted]	**Order No.**	: 60612563_2_1
		Date Received	: 27-APR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: 60612563_2.1		
Your Client Services Manager	[redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/008167	0207_QC209_230417	WATER 17/04/2023
N23/008168	0207_QC210_230418	WATER 18/04/2023
N23/008170	0207_QC212_230419	WATER 19/04/2023
N23/008171	0207_QC213_230420	WATER 20/04/2023

Lab Reg No.			N23/008167	N23/008168	N23/008170	N23/008171	
Date Sampled			17-APR-2023	18-APR-2023	19-APR-2023	20-APR-2023	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)		ug/L	<0.05	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxA (307-24-4)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFHpA (375-85-9)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFOA (335-67-1)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFNA (375-95-1)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)		ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)		ug/L	0.012	<0.01	<0.01	<0.01	NR70
PFHxS (355-46-4)		ug/L	0.13	<0.01	<0.01	<0.01	NR70
PFHpS (375-92-8)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFOS (1763-23-1)		ug/L	0.088	<0.02	<0.02	<0.02	NR70
PFNS (68259-12-1)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)		ug/L	0.010	<0.01	<0.01	<0.01	NR70
PFOSA (754-91-6)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)		ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.			N23/008167	N23/008168	N23/008170	N23/008171	
Date Sampled			17-APR-2023	18-APR-2023	19-APR-2023	20-APR-2023	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)		ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)		ug/L	<0.01	<0.01	0.10	<0.01	NR70
8:2 FTS (39108-34-4)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)		ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)		ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)		%	98	92	101	93	NR70
PFPeA (Surrogate Recovery)		%	96	105	100	93	NR70
PFHxA (Surrogate Recovery)		%	98	84	93	101	NR70
PFHpA (Surrogate Recovery)		%	96	87	95	96	NR70
PFOA (Surrogate Recovery)		%	100	95	97	101	NR70
PFNA (Surrogate Recovery)		%	92	96	94	98	NR70
PFDA (Surrogate Recovery)		%	93	88	91	94	NR70
PFUdA (Surrogate Recovery)		%	94	83	100	106	NR70
PFDoA (Surrogate Recovery)		%	84	73	97	99	NR70
PFTeDA (Surrogate Recovery)		%	81	74	98	96	NR70
PFHxDA (Surrogate Recovery)		%	87	85	104	112	NR70
FOUEA (Surrogate Recovery)		%	71	59	72	72	NR70
PFBS (Surrogate Recovery)		%	93	84	90	91	NR70
PFHxS (Surrogate Recovery)		%	94	87	91	98	NR70
PFOS (Surrogate Recovery)		%	94	94	92	98	NR70
PFOSA (Surrogate Recovery)		%	73	63	88	81	NR70
N-MeFOSA (Surrogate Recovery)		%	66	50	69	74	NR70
N-EtFOSA (Surrogate Recovery)		%	54	40	58	65	NR70
N-MeFOSAA (Surrogate Recovery)		%	76	60	101	88	NR70
N-EtFOSAA (Surrogate Recovery)		%	79	60	90	101	NR70
N-MeFOSE (Surrogate Recovery)		%	63	44	68	71	NR70
N-EtFOSE (Surrogate Recovery)		%	58	43	67	71	NR70
4:2 FTS (Surrogate Recovery)		%	90	117	86	86	NR70
6:2 FTS (Surrogate Recovery)		%	80	85	79	83	NR70
8:2 FTS (Surrogate Recovery)		%	79	77	78	85	NR70
8:2 diPAP (Surrogate Recovery)		%	90	97	116	118	NR70
Dates							
Date extracted			28-APR-2023	28-APR-2023	28-APR-2023	28-APR-2023	
Date analysed			28-APR-2023	28-APR-2023	28-APR-2023	28-APR-2023	

N23/008167
to
N23/008172

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

[redacted]
Organics - NSW
Accreditation No. 198

09-MAY-2023

REPORT OF ANALYSIS

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO06/230427/1
	[redacted]	**Quote No.**	: QT-02018
	[redacted]	**Order No.**	: 60612563_2_1
		Date Received	: 27-APR-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: 60612563_2.1		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/008172	0207_QC214_230420	WATER 20/04/2023

Lab Reg No.			N23/008172				
Date Sampled			20-APR-2023				
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)		ug/L	<0.05				NR70
PFPeA (2706-90-3)		ug/L	<0.02				NR70
PFHxA (307-24-4)		ug/L	<0.01				NR70
PFHpA (375-85-9)		ug/L	<0.01				NR70
PFOA (335-67-1)		ug/L	<0.01				NR70
PFNA (375-95-1)		ug/L	<0.01				NR70
PFDA (335-76-2)		ug/L	<0.01				NR70
PFUdA (2058-94-8)		ug/L	<0.01				NR70
PFDoA (307-55-1)		ug/L	<0.01				NR70
PFTrDA (72629-94-8)		ug/L	<0.02				NR70
PFTeDA (376-06-7)		ug/L	<0.02				NR70
PFHxDA (67905-19-5)		ug/L	<0.02				NR70
PFODA (16517-11-6)		ug/L	<0.05				NR70
FOUEA (70887-84-2)		ug/L	<0.01				NR70
PFDS (335-77-3)		ug/L	<0.01				NR70
PFPeS (2706-91-4)		ug/L	<0.01				NR70
PFHxS (355-46-4)		ug/L	<0.01				NR70
PFHpS (375-92-8)		ug/L	<0.01				NR70
PFOS (1763-23-1)		ug/L	<0.02				NR70
PFNS (68259-12-1)		ug/L	<0.01				NR70
PFBS (375-73-5)		ug/L	<0.01				NR70
PFOSA (754-91-6)		ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)		ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)		ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)		ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)		ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)		ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)		ug/L	<0.05				NR70
4:2 FTS (757124-72-4)		ug/L	<0.01				NR70
6:2 FTS (27619-97-2)		ug/L	<0.01				NR70

REPORT OF ANALYSIS

Lab Reg No.			N23/008172				
Date Sampled			20-APR-2023				
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
8:2 FTS (39108-34-4)		ug/L	<0.01				NR70
10:2 FTS (120226-60-0)		ug/L	<0.01				NR70
8:2 diPAP (678-41-1)		ug/L	<0.02				NR70
PFBA (Surrogate Recovery)		%	91				NR70
PFPeA (Surrogate Recovery)		%	86				NR70
PFHxA (Surrogate Recovery)		%	94				NR70
PFHpA (Surrogate Recovery)		%	94				NR70
PFOA (Surrogate Recovery)		%	95				NR70
PFNA (Surrogate Recovery)		%	92				NR70
PFDA (Surrogate Recovery)		%	95				NR70
PFUdA (Surrogate Recovery)		%	96				NR70
PFDoA (Surrogate Recovery)		%	93				NR70
PFTeDA (Surrogate Recovery)		%	101				NR70
PFHxDA (Surrogate Recovery)		%	105				NR70
FOUEA (Surrogate Recovery)		%	75				NR70
PFBS (Surrogate Recovery)		%	91				NR70
PFHxS (Surrogate Recovery)		%	92				NR70
PFOS (Surrogate Recovery)		%	91				NR70
PFOSA (Surrogate Recovery)		%	79				NR70
N-MeFOSA (Surrogate Recovery)		%	71				NR70
N-EtFOSA (Surrogate Recovery)		%	61				NR70
N-MeFOSAA (Surrogate Recovery)		%	88				NR70
N-EtFOSAA (Surrogate Recovery)		%	95				NR70
N-MeFOSE (Surrogate Recovery)		%	68				NR70
N-EtFOSE (Surrogate Recovery)		%	68				NR70
4:2 FTS (Surrogate Recovery)		%	82				NR70
6:2 FTS (Surrogate Recovery)		%	75				NR70
8:2 FTS (Surrogate Recovery)		%	75				NR70
8:2 diPAP (Surrogate Recovery)		%	124				NR70
Dates							
Date extracted			28-APR-2023				
Date analysed			28-APR-2023				

[redacted]

Organics - NSW
Accreditation No. 198

09-MAY-2023

REPORT OF ANALYSIS

This Report supersedes reports: *RN1391208*
RN1391400

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/230427/1 **Sample Matrix:** Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		mg/kg	mg/kg	mg/kg	mg/kg	%	%	%
PFBA (375-22-4)	NR70	0.002	<0.002	NA	NA	NA	111	NA
PFPeA (2706-90-3)	NR70	0.002	<0.002	NA	NA	NA	107	NA
PFHxA (307-24-4)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFHpA (375-85-9)	NR70	0.001	<0.001	NA	NA	NA	106	NA
PFOA (335-67-1)	NR70	0.001	<0.001	NA	NA	NA	112	NA
PFNA (375-95-1)	NR70	0.001	<0.001	NA	NA	NA	104	NA
PFDA (335-76-2)	NR70	0.001	<0.001	NA	NA	NA	115	NA
PFUdA (2058-94-8)	NR70	0.002	<0.002	NA	NA	NA	119	NA
PFDoA (307-55-1)	NR70	0.002	<0.002	NA	NA	NA	109	NA
PFTrDA (72629-94-8)	NR70	0.002	<0.002	NA	NA	NA	107	NA
PFTeDA (376-06-7)	NR70	0.002	<0.002	NA	NA	NA	105	NA
PFHxDA (67905-19-5)	NR70	0.002	<0.002	NA	NA	NA	111	NA
PFODA (16517-11-6)	NR70	0.005	<0.005	NA	NA	NA	99	NA
FOUEA (70887-84-2)	NR70	0.001	<0.001	NA	NA	NA	121	NA
PFBS (375-73-5)	NR70	0.001	<0.001	NA	NA	NA	110	NA
PFPeS (2706-91-4)	NR70	0.001	<0.001	NA	NA	NA	117	NA
PFHxS (355-46-4)	NR70	0.001	<0.001	NA	NA	NA	105	NA
PFHpS (375-92-8)	NR70	0.001	<0.001	NA	NA	NA	104	NA
PFOS (1763-23-1)	NR70	0.002	<0.002	NA	NA	NA	111	NA
PFNS (68259-12-1)	NR70	0.001	<0.001	NA	NA	NA	108	NA
PFDS (335-77-3)	NR70	0.001	<0.001	NA	NA	NA	105	NA
PFOSA (754-91-6)	NR70	0.001	<0.001	NA	NA	NA	101	NA
N-MeFOSA (31506-32-8)	NR70	0.002	<0.002	NA	NA	NA	89	NA
N-EtFOSA (4151-50-2)	NR70	0.002	<0.002	NA	NA	NA	111	NA
N-MeFOSAA (2355-31-9)	NR70	0.002	<0.002	NA	NA	NA	104	NA
N-EtFOSAA(2991-50-6)	NR70	0.002	<0.002	NA	NA	NA	110	NA
N-MeFOSE (24448-09-7)	NR70	0.005	<0.005	NA	NA	NA	113	NA
N-EtFOSE (1691-99-2)	NR70	0.005	<0.005	NA	NA	NA	116	NA
4:2 FTS (757124-72-4)	NR70	0.001	<0.001	NA	NA	NA	109	NA
6:2 FTS (27619-97-2)	NR70	0.001	<0.001	NA	NA	NA	111	NA
8:2 FTS (39108-34-4)	NR70	0.001	<0.001	NA	NA	NA	115	NA
10:2 FTS (120226-60-0)	NR70	0.002	<0.002	NA	NA	NA	116	NA
8:2 diPAP (678-41-1)	NR70	0.002	<0.002	NA	NA	NA	121	NA

Results expressed in percentage (%) or mg/kg wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **4/05/2023**

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/230427/1 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	122	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	102	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	101	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	98	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	102	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	112	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	105	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	103	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	99	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	111	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	97	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	98	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	103	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	88	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	106	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	109	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	104	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	108	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	108	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	95	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	104	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	115	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	108	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	113	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **4/05/2023**

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2325318**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 17-Aug-2023 14:35	Issue Date	: 18-Aug-2023
Client Requested Due Date	: 25-Aug-2023	Scheduled Reporting Date	: **25-Aug-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 2.1°C - Ice Bricks present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- ***18/08/2023*: SRN has been resent to acknowledge the amendment of the estimated reporting date. For any further information regarding these adjustments please contact client services at ALSEnviro.Brisbane@alsglobal.com.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2325318-001	16-Aug-2023 00:00	0207_MW151_230816	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP reports

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- A4 - AU Tax Invoice (INV)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email
- EDI Format - ESDAT (ESDAT)	Email

CERTIFICATE OF ANALYSIS

Work Order	: **EB2325318**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 17-Aug-2023 14:35
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Aug-2023
C-O-C number	: ----	Issue Date	: 23-Aug-2023 15:52
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW151_230816	----	----	----	----
				Sampling date / time	16-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2325318-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW151_230816	----	----	----	----
				Sampling date / time	16-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2325318-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.5**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2325318**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 17-Aug-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Aug-2023
C-O-C number	: ----	Issue Date	: 23-Aug-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5248032)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	94.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5248032)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	99.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	102	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	90.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	92.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5248032)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	94.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.0	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	115	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	82.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5248032)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5248032) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	119	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	114	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	104	64.2	133
EP231P: PFAS Sums (QCLot: 5248032)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2325318**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 17-Aug-2023
Site	: ----	Issue Date	: 23-Aug-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW151_230816	**16-Aug-2023**	**22-Aug-2023**	12-Feb-2024	✓	**22-Aug-2023**	12-Feb-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW151_230816	**16-Aug-2023**	**22-Aug-2023**	12-Feb-2024	✓	**22-Aug-2023**	12-Feb-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW151_230816	**16-Aug-2023**	**22-Aug-2023**	12-Feb-2024	✓	**22-Aug-2023**	12-Feb-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW151_230816	**16-Aug-2023**	**22-Aug-2023**	12-Feb-2024	✓	**22-Aug-2023**	12-Feb-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW151_230816	**16-Aug-2023**	**22-Aug-2023**	12-Feb-2024	✓	**22-Aug-2023**	12-Feb-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2325321**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 17-Aug-2023 14:35	Issue Date	: 18-Aug-2023
Client Requested Due Date	: 25-Aug-2023	Scheduled Reporting Date	: **25-Aug-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 2.1°C - Ice Bricks present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2325321-001	16-Aug-2023 00:00	0207_MW269_230816	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP reports

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- A4 - AU Tax Invoice (INV)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2325321**	Page	: 1 of 5
Client	: [redacted]	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 17-Aug-2023 14:35
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Aug-2023
C-O-C number	: ----	Issue Date	: 24-Aug-2023 13:04
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW269_230816	----	----	----	----
				Sampling date / time	16-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2325321-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.03**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW269_230816	----	----	----	----
				Sampling date / time	16-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2325321-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.14**	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.22**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.08**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.22**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.1**	----	----	----	----
13C8-PFOA	----	0.02	%		**95.7**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2325321**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 17-Aug-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 18-Aug-2023
C-O-C number	: ----	Issue Date	: 24-Aug-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5248032)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	94.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5248032)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	99.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	102	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	90.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	92.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5248032)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	94.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.0	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	115	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	82.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5248032)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5248032) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	119	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	114	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	104	64.2	133
EP231P: PFAS Sums (QCLot: 5248032)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2325321**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 17-Aug-2023
Site	: ----	Issue Date	: 24-Aug-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW269_230816	**17-Aug-2023**	**22-Aug-2023**	13-Feb-2024	✓	**22-Aug-2023**	13-Feb-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW269_230816	**17-Aug-2023**	**22-Aug-2023**	13-Feb-2024	✓	**22-Aug-2023**	13-Feb-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW269_230816	**17-Aug-2023**	**22-Aug-2023**	13-Feb-2024	✓	**22-Aug-2023**	13-Feb-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW269_230816	**17-Aug-2023**	**22-Aug-2023**	13-Feb-2024	✓	**22-Aug-2023**	13-Feb-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW269_230816	**17-Aug-2023**	**22-Aug-2023**	13-Feb-2024	✓	**22-Aug-2023**	13-Feb-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Appendix F

Equipment Calibration Certificates

Appendix F Equipment Calibration Certificates

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION

Plant Number: 1100708

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	377339 380327	☑
Conductivity	2.76 mS/cm @ 25°C	2.76 mS/cm		377099	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air	12110	☑
ORP	240mV @ 25°C	240mV	-	398884/395163	☑

Battery Status 100 %	Temperature 21 °C
	Electrodes Cleaned and Checked

Note: Calibration solution traceability information is available upon request.

Please clean/decontaminate instrument and accessories before returning. A minimum 'Cleaning Fee' $55.00 (Inc GST) may apply if instrument is returned contaminated.

Checked By: [redacted] Date: 14/3/23 Signed: [redacted]

Accessories List:

User's Manual & USB	pH Sensor	Conductivity Sensor
Dissolved Oxygen Sensor with Wetting Cap	Redox (ORP) Sensor with Wetting Cap	Flow Cell 500ml
Comm Cable	Testing Cap	Storage Cap

Oil / Water Interface Meter

Instrument Interface Meter (60M)
Serial No. 483924

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: [redacted]

Calibration date: 05-May-23

Next calibration due: 4/07/2023

Solinst Model 122 Interface Meter

Instrument Interface Meter (100M)
Serial No. 485360

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	8.49v
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: [redacted]

Calibration date: 30/03/2023 0:00

Next calibration due: 29/05/2023 0:00

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 18G103118

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		393774	pH 7.01
2. pH 4.00		pH 4.00		329384	pH 4.01
3. ORP		232.7mV		390802/387761	267.3mV
4. EC		2760uS		385789	2760uS
5. D.O		100%		Fresh Air	99.4% - 758.4mmHg
6. Temp		23.3oC		MultiTherm 09000528	24.4oC

Calibrated by: [redacted]

Calibration date: 30-Mar-23

Next calibration due: 26-Sep-23

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 10D101443

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.0		393774	pH 7.0
2. pH 4.00		pH 4.0		399527	pH 4.0
3. ORP		231.86mV		401308/395763	232.08mV
4. EC		2760uS		396172	2761uS
5. D.O		100%		Fresh Air	101% - 751.8mmHg
6. Temp		23.7oC		MultiTherm 09000528	23.6oC

Calibrated by: [redacted]

Calibration date: 05-May-23

Next calibration due: 4/06/2023

Oil / Water Interface Meter

Instrument Interface Meter (60M)
Serial No. 483924

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: [redacted]

Calibration date: 05-May-23

Next calibration due: 4/07/2023

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	11/04/2023 9:00				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2444	0	243.8
Bump Test Reading:	4.03	7.03	2405	0	242.8
Bump Test Temperature:	18.7	18.5	18.5	18.2	18.4

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

11/04/2023

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	12/04/2023 0530				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2549	0	237.8
Bump Test Reading:	4.03	7.03	2417	0	241.2
Bump Test Temperature:	21.1	21.1	21.3	21.2	21.2

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

12/04/2023

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	13/04/2023 0530				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2602	0	235.6
Bump Test Reading:	4.03	7.03	2586	0	240.2
Bump Test Temperature:	21.6	21.6	21.7	21.6	21.7

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

13/04/2023

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	14/04/2023 0530				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2549	0	237.8
Bump Test Reading:	4.03	7.03	252.8	0	239.5
Bump Test Temperature:	20.6	20.9	20.5	20.9	20.7

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

14/04/2023

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	17/04/2023 0500				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2549	0	237.8
Bump Test Reading:	4.03	7.01	2497	0	232.1
Bump Test Temperature:	20.8	20.5	20.5	20.8	20.6

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

17/04/2023

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	18/04/2023 0600				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2602	0	235.6
Bump Test Reading:	4.03	7.02	2653	0.01	233.4
Bump Test Temperature:	21.6	21.7	21.6	21.7	21.7

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

18/04/2023

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	19/04/2023 0600				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2496	0	240
Bump Test Reading:	4.02	7	2565	0	234.9
Bump Test Temperature:	20.3	20.3	20.7	20.4	20.9

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted] — **Fieldwork Staff Signature**

19/04/2023 — **Date**

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	DOD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Air-met
Make and Model:	YSI Pro Quatro
Serial Number:	18G103118

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	20/04/2023 0810				
Parameter	Acidity		Conductivity	Dissolved Oxygen	Redox
Units	pH	pH	µS/cm	ppm	mV
Calibration Standard Concentration:	4	7	2496	0	240
Bump Test Reading:	4.03	7.03	2567	0	235.5
Bump Test Temperature:	19.7	19.7	19.6	19.7	19.7

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

20/04/2023

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	[redacted]	**Project Number:**	60612563
Project Location:		**Client:**	DEFENCE
PM Name:		**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	YSI / AirMet
Make and Model:	YSI Professional Plus - [redacted]
Serial Number:	10D101443

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	9/5/23 , 16.20				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	pH 7.0	pH 4.0	2760	100%	
Calibration Reading:	pH 7.05	pH 4.03	2861	0.1	
Calibration Temperature:	24.0	24.1	24.1	23.4	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	9/5/23 , 16.40				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	pH 7.0	pH 4.0	2760	100%	
Bump Test Reading:	pH 7.06	pH 4.02	2867	0.1	
Bump Test Temperature:	23.1	23.1	23.3	23.3	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted] — Fieldwork Staff Signature

9/5/23 — Date

Distribution: Project Central File

Appendix G

Photographs of Well Repairs

PHOTOGRAPHIC LOG

Site Name: Brymaroo	**Site Location:** Brymaroo Satellite Site, Brymaroo, Queensland.	**Project No:** 60612563

Plate No. 1	**Date:** 11/04/2023

Direction Photo Taken: N/A

Description: New gatic cover on monitoring well 1435_MW001.

PHOTOGRAPHIC LOG

Site Name: Brymaroo	**Site Location:** Brymaroo Satellite Site, Brymaroo, Queensland	**Project No:** 60612563

Plate No. 2	**Date:** 11/04/2023

Direction Photo Taken: N/A

Description: New gatic cover on monitoring well 1435_MW002.

PHOTOGRAPHIC LOG

Site Name: Brymaroo	**Site Location:** Brymaroo Satellite Site, Brymaroo, Queensland	**Project No:** 60612563

Plate No.	**Date:**
3	11/04/2023

Direction Photo Taken: N/A

Description: New gatic cover on monitoring well 1435_MW003.

PHOTOGRAPHIC LOG

Site Name: AACO	**Site Location:** Oakey, Queensland	**Project No:** 60612563

Plate No.	**Date:**
4	11/04/2023

Direction Photo Taken: N/A

Description: New gatic cover on monitoring well 0207_MW276.

PHOTOGRAPHIC LOG

Site Name: AACO	**Site Location:** Oakey, Queensland	**Project No:** 60612563
Plate No. 5 / **Date:** 11/04/2023		
Direction Photo Taken: N/A		
Description: New gatic cover on monitoring well 0207_MW278.		

PHOTOGRAPHIC LOG

Site Name: AACO	**Site Location:** Oakey, Queensland.	**Project No:** 60612563
Plate No. 6 / **Date:** 11/04/2023		
Direction Photo Taken: N/A		
Description: New stand-up covers on monitoring wells 0207_MW288 and 0207_MW289.		

Prepared for
Department of Defence
ABN: 68706814312

Sampling Event Factual Report, October 2023

PFAS OMP - Swartz Barracks (formerly known as Army Aviation Centre Oakey)

12-Jul-2024
Doc No. 60612563_RP_084_3_240712

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Sampling Event Factual Report, October 2023

PFAS OMP - Swartz Barracks (formerly known as Army Aviation Centre Oakey)

Client: Department of Defence

ABN: 68706814312

Prepared by

,

12-Jul-2024

Job No.: 60612563

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

Quality Information

Document	Sampling Event Factual Report, October 2023
Ref	60612563
Date	12-Jul-2024
Prepared by	[redacted]
Reviewed by	[redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name / Position	Signature
0	01-Dec-2023	Draft	[redacted]	
1	08-Jan-2024	Draft		
2	16-Jan-2024	Final		
3	12-Jul-2024	Final		[redacted]

Table of Contents

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Abbreviations

Abbreviation	
AACO	Army Aviation Centre Oakey
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous film forming foam
ALS	Australian Laboratory Services
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure 1999 (as amended 2013)
BOM	Bureau of Meteorology
COC	Chain of Custody
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
IP	Interface probe
LNAPL	Light non aqueous phase liquid
LOR	Limit of reporting
mAHD	metres Australian height datum
mbtoc	Metres below top of casing
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
OMP	Ongoing monitoring plan
OMR	Ongoing Monitoring Report
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluorinated alkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perflurooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA / QC	Quality assurance / quality control
QLD	Queensland
RPD	Relative percent difference
SAQP	Sampling Analysis and Quality Plan
SWL	Standing water level

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

Units of Measurement			
L	Litres	m	Metres
mg	Milligram	ha	Hectares
kg	Kilogram	µg	Microgram
mV	Millivolts	°C	Degrees Celsius
µS	Microsiemens	mm	Millimetre

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) has been engaged by the Department of Defence (Defence) to implement the per- and poly-fluororinated alkyl substances (PFAS) Ongoing Monitoring Plan (OMP) (Defence, 2019) at Swartz Barracks (formerly known as the Army Aviation Centre Oakey (AACO)) (the 'Base') and the Swartz Barracks Management Area in the South Queensland Region. The locations of the Base and the Management Area are shown in **Figure** 1 and **Figure 2** in **Appendix A**. The OMP for Swartz Barracks (Defence 2019) includes the following sampling events:

- Targeted groundwater sampling events in October 2019, October 2020 and October 2021.
- Annual comprehensive sampling events in March / April 2020, March / April 2021 and March / April 2022 including groundwater, sediment and surface water sampling.

In July 2022, Defence extended the period for the OMP sampling events by two years with additional targeted groundwater sampling events scheduled for October 2022 and October 2023 and additional annual comprehensive sampling events scheduled for March / April 2023 and March / April 2024.

Following each comprehensive and targeted sampling event, sampling event factual reports will be prepared. Ongoing Monitoring Reports (OMRs) will be prepared following the completion of each 12-month sampling period. This sampling event factual report has been prepared to report the results of the sampling event completed in October 2023, specifically highlighting first-time detections and / or new exceedances of human health screening criteria for perfluorohexane sulfonate (PFHxS) and perfluorooctane sulfonate (PFOS) and / or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance,* Version 0.2, May 2021 (Defence, 2021).

1.2 Objectives

The objectives of the OMP are to:

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

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

The objective of this phase of works is to implement the scope of works for the October 2023 sampling event in accordance with the Sampling Analysis and Quality Plan (SAQP) (AECOM, 2023).

2.0 Scope of Work

The sampling event at Swartz Barracks was completed in general accordance with the SAQP (AECOM, 2023). In summary, the scope of works for this sampling event included:

- Obtaining access to private properties where some groundwater sampling locations are situated.
- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
  - PFAS National Environmental Management Plan (NEMP) (Heads of Environmental Protection Agencies [HEPA], 2020)
  - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013)
  - Defence Routine Environment Water Quality Monitoring Manual
  - AS / NZ 5667:1998 Water quality – Sampling
  - Australian and New Zealand Guidelines for Fresh and Marine Water Quality
  - Relevant State regulatory guidelines.
- Gauging of groundwater level in monitoring wells prior to collection of samples (refer to **Table 1** below, and **Figure 3** and **Figure 4** in **Appendix A** for specific locations).
- As per the SAQP (AECOM, 2023), collection of groundwater samples at 48 monitoring wells and bores (34 at Swartz Barracks, 14 located off-Base) (refer to **Table 1** below, and **Figure 3** and **Figure 4** in **Appendix A**). Two monitoring wells were not sampled, MW242 (on-Base) and MW264 (off-Base) were not found, refer to **Table 4** for details.
- Collecting intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples and collecting one rinsate sample per fieldwork day when re-usable (i.e. decontaminated) equipment was in use.
- Analysis of all samples for a suite of 28 PFAS analytes at the standard limit of reporting (LOR).
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

Location		Monitoring Wells / Residential Bores
Source Area Bores	Fire training area in the north of the Base	MW562, MW563
	Former fire station in B3	MW201, MW202, MW203, MW204, MW205
	Aqueous film forming foam (AFFF) storage area / D20 appliance testing area	MW221, MW222, MW230, MW232
	AFFF recovery tank in F1 / hot refuel area	MW235, MW236, MW241
	AFFF recovery tank in A2 / hot refuel area	MW172, MW173
	AFFF recovery tank in S1	MW299, MW300
	AFFF settling tank in C1	MW193, MW198, MW207, MW223, MW229
On-Base boundary bores (Oakey Creek Alluvium)		MW167, MW174, MW178, MW179, MW187, MW189, MW233, MW242[#], MW245, MW249, MW252
Off-Base west and southwest of the Base		MW255, MW257, MW262, MW264[#], MW272, MW276, *MW003, MW019, MW038, MW056, MW134, MW147, MW151*
Off-Base underlying aquifers to south of the Base		MW269

***Notes**: Italics indicate residential bores. [#]Wells / bores that could not be sampled during this sampling event, refer to **Section 3.4**.*

3.0 Methodology

The methodology used for the October 2023 sampling event was in general accordance with the SAQP (AECOM, 2023) and is summarised below.

3.1 Groundwater Sampling Methodology

Table 2 Groundwater Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well prior to the installation of HydraSleeves™ and immediately prior to collection of groundwater samples using an interface probe (IP).
Quality parameter field measurements	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all groundwater samples. Equipment calibration certificates are provided in **Appendix F**.
Sampling methodology	Groundwater samples were collected from monitoring wells using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. At one location, MW232, there was insufficient water for the HydraSleeve™ and a bailer was used to collect the sample. Bore water samples were collected by placing the laboratory sample bottle beneath the tap and the tap slowly opened to collect the “first flush” of water.
QA / QC samples	Field quality assurance / quality control (QA / QC) samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and rinsate samples. Refer to **Appendix C** for assessment of QA / QC sample data. Rinsate samples were collected at the rate of one sample per fieldwork day by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. The only reusable equipment that was decontaminated during the sampling event was the IP.
Sample analysis	All primary samples were submitted for analysis for the PFAS suite using the standard levels of detection. Australian Laboratory Services Environmental (ALS) Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for groundwater analyses were certified by the National Association of Testing Authorities (NATA). Chain of Custody (COC) forms and laboratory certificates are presented in **Appendix D** and **Appendix E** respectively.

3.2 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS NEMP, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

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

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 3** below.

Table 3 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking water - groundwater	PFHxS and PFOS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). *All groundwater results will be compared to these criteria.*
	PFOA	0.56 µg/L	
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (99% species protection values)	PFOS	0.00023 µg/L	The values are from the PFAS NEMP (HEPA, 2020). The 99% level of protection has been applied for slightly to moderately disturbed ecosystems. This approach is generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. For the purposes of preliminary screening of analytical water results, the laboratory LOR will be adopted rather than sole use of the criteria value. *All groundwater results will be compared to these criteria.*
	PFOA	19 µg/L	

3.3 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2023).

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

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

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018, amended 2021) requirements.

3.4 Deviations from the SAQP

Table 4 lists the deviations from the SAQP (AECOM, 2023) during this sampling event.

Table 4 Deviations from the SAQP during October 2023 Sampling Event

SAQP	October 2023 Sampling Event	Impact on Ongoing Monitoring Program
Collection of groundwater samples at 48 locations	• A total of 46 out of the 48 groundwater samples specified in the SAQP were collected. • Monitoring well MW264 could not be located and is likely to be buried under sediment. • Monitoring well MW242 was not found and a sample could not be collected.	• The non-sampling of MW264 reduces information on the potential migration of PFAS in groundwater in the Oakey Creek Alluvium aquifer in the southwestern portion of the Management Area. • As monitoring well MW242 was not found, there is no information on groundwater quality in the Oakey Creek Alluvium aquifer adjacent to the southwestern corner of the Base.
Collection of groundwater samples from monitoring wells using no-purge HydraSleeves™	• The groundwater sample from monitoring wells MW232, was collected using a bailer due to the water column not being sufficient for a Hydrasleeve to be installed.	• The different sampling technique is not likely to impact the ongoing monitoring program.

4.0 Field Observations and Results

The sampling event was completed between 24 and 27 October 2023. The results are summarised in following sections.

4.1 Groundwater Observations and Quality Parameter Field Measurements

Table 5 Groundwater Observations and Quality Parameter Field Measurements

Feature	Details
Access	All monitoring wells and bores were accessible except for the following: • MW242 was not sampled as it was not found. • MW264 could not be found and is likely to be buried under sediment.
Monitoring Well Network	All well covers were noted to be in good condition with the exception of MW202 where the gatic cover / concrete was slightly damaged (cracked).
Field Observations	A hydrocarbon odour and light non aqueous phase liquid (LNAPL) were noted during gauging of MW193 which is located east of Hangar C2 and close to Tank C59. The hydrocarbon contamination is associated with a known historical leak of petroleum hydrocarbons from Tank C60 in 2009 (AECOM, 2018) and is consistent with historical observations at this location. An organic odour was noted during sampling of MW167, MW178, MW187, MW189 and MW255 and sulfuric odours were observed during sampling of MW174 and MW257. No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells. Field observations are presented **Table T1** in **Appendix B**.
Depth to LNAPL	LNAPL was present in MW193 with a thickness of 0.095 m recorded. Measurable LNAPL was not gauged in any of the monitoring wells during the sampling event. Groundwater gauging data are presented in **Table T1** in **Appendix B**.
Depth to Groundwater	Depth to groundwater in the Oakey Creek Alluvium aquifer at Swartz Barracks ranged between 3.473 (MW229) and 14.514 metres below top of casing (mbtoc) (MW255). Groundwater elevations in the Oakey Creek Alluvium aquifer ranged between 386.37 (MW255) and 402.06 metres Australian Height Datum (mAHD) (MW229). Depth to groundwater in the one monitoring well screened in the Walloon Coal Measures (MW269) was 33.414 mbtoc with a groundwater elevation of 368.544 mAHD. Groundwater gauging data are presented in **Table T1** in **Appendix B**.
Groundwater Flow Direction	Inferred groundwater contours and groundwater flow directions in the Oakey Creek Alluvium aquifer at Swartz Barracks in October 2023 are shown on **Figure 5** in **Appendix A**. The inferred local groundwater flow direction is generally from east to west across the Base.

Feature	Details
Quality Parameter Field Measurements	Groundwater quality parameters were measured prior to collecting groundwater samples. The field measurements are presented in **Table T1** in **Appendix B** and are summarised below: Swartz Barracks Management Area- Oakey Creek Alluvium • EC ranged from 536 µS/cm (MW252) to 8977 µS/cm (MW187) indicating fresh to brackish conditions. • pH ranged from 6.62 (MW205) to 7.73 (MW038). pH results indicated near neutral conditions. • ORP ranged from -16.7 mV (MW257) to 352.7 mV (MW167) indicating mildly to strongly reducing conditions. • Temperature ranged from 18.8°C (MW235) to 38.8°C (MW147)[1]. • DO results ranged between 0.57 (MW202) and 6.5 mg/L (MW151) indicating poorly to moderately oxygenated conditions. Swartz Barracks Management Area- Walloon Coal Measures (MW269) • EC measured 1359 µS/cm indicating fresh water condition. • pH measured 11.4 pH results indicating alkaline conditions. • ORP measured 226.4 mV indicating moderately reducing conditions. • Temperature was measured at 22.4°C. • The DO measured 2.84 mg/L indicating mildly oxygenated conditions.
Weather Conditions	Weather conditions during sampling on 24, 25 and 27 October 2023 were dry and sunny. A total of 0.2 mm rainfall was recorded at the Bureau of Meteorology (BOM) station 041359 – 'Oakey Aero' on 26 October 2023.
Estate Management Works or Training Activities	During the sampling event no notable estate works or training activities were observed in the vicinity of the sampling locations.

4.2 Groundwater Analytical Results

Groundwater analytical results are presented in **Table T2**, **Appendix B**. There were no first-time detections and no new exceedances of the human health or ecological guideline values. Out of the 46 groundwater samples collected[2], 41 exceeded the NEMP (HEPA, 2020) human health drinking water guideline value for sum of PFHxS and PFOS with 16 samples exceeding the PFOA guideline value. A total of 42 groundwater samples exceeded the limit of reporting for PFOS and therefore exceeded the NEMP (HEPA, 2020) ecological guideline for PFOS for 99% protection of freshwater ecosystems. One groundwater sample exceeded the NEMP (HEPA, 2020) PFOA ecological guideline value.

New maximum concentrations of sum of PFHxS and PFOS were recorded at MW038 (1.24 µg/L), MW204 (1500 µg/L), MW207 (2.26 µg/L), MW255 (0.29 µg/L) and MW563 (20.6 µg/L[3]). New maximum concentrations of PFOS were recorded at MW038 (0.84 µg/L), MW134 (0.18 µg/L), MW204 (575 µg/L), MW205 (10.5 µg/L), MW207 (0.84 µg/L), MW255 (0.1 µg/L), MW563 (1.06 µg/L). New maximum concentrations of PFOA were recorded at MW201 (11.7 µg/L), MW204 (62.4 µg/L) and MW563 (0.91 µg/L[3]).

[1] The high temperature recorded in water at MW147 was due to the metal water pipe being heated by the sun.
[2] The number of samples shown excludes quality assurance samples (i.e. duplicates and triplicates).
[3] This maximum concentration was recorded in the duplicate sample 0207_QC104_231026.

5.0 Summary and Next Sampling Event

5.1 Summary of Monitoring Event

A groundwater monitoring event was completed within and outside of the Swartz Barracks Management Area, between 23 and 27 October 2023. The program included sampling of groundwater from 48 monitoring wells and bores.

Table 6 summarises the findings of the October 2023 sampling event and the recommended actions.

Table 6 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	46 out of the 48 monitoring well / bore locations were accessible and able to be sampled. Monitoring well MW264 could not be sampled as it could not be found. One well, MW242, was not found. The non-sampling of MW264, located close to the Management Area boundary reduces the information on the potential migration of PFAS in groundwater in Oakey Creek Alluvium aquifer beyond the southwestern boundary.	The loss of the wells/bores will be considered in the 2023 (OMR). As MW264 has not been found for several sampling events, a replacement well would be required to continue monitoring groundwater in the southwestern portion of the Management Area. It is recommended that the need for a replacement well is considered during the 2023 OMR.
Monitoring well network condition	No issues were identified in the monitoring wells sampled, except for MW202. The gatic cover / concrete at MW202 is cracked.	The gatic cover on MW202 should be replaced.
Analytical Results	Groundwater samples from nine wells / bores recorded new maximum concentrations of either Sum of PFHxS and PFOS, PFOS or PFOA. PFAS concentrations were lower than historical maximum concentrations in the other 37 groundwater samples analysed.	Ongoing monitoring in accordance with the OMP.
First-time detections of Sum of PFHxS and PFOS or PFOA	No first-time detections of PFAS above the laboratory limit of reporting were recorded in any of the 46 groundwater samples collected.	Ongoing monitoring in accordance with the OMP.
New exceedance of HEPA (2020) drinking water guideline values or NHMRC (2019) recreational use guidelines	No new exceedances were identified in the dataset.	Ongoing monitoring in accordance with the OMP.

5.2 Upcoming Sampling Events

The next sampling event is scheduled for April 2024.

5.3 Upcoming Ongoing Monitoring Report

The next OMR is scheduled for March 2024.

6.0 References

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Appendix A

Figures

Appendix A Figures

AECOM
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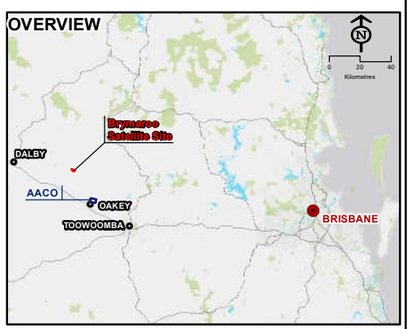
DATUM GDA 1994. PROJECTION MGA ZONE 56

0 2.5 5
Kilometres

1:200,000 (when printed at A3)

LEGEND

- Airport
- Watercourse/waterbody
- Great Dividing Range
- Investigation Area
- Local Governmental Area
- Swartz Barracks (AACO) & Brymaroo
- National Park



Data sources:

Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011

PFAS OMP SWARTZ BARRACKS SAMPLING
EVENT FACTUAL REPORT: October 2023

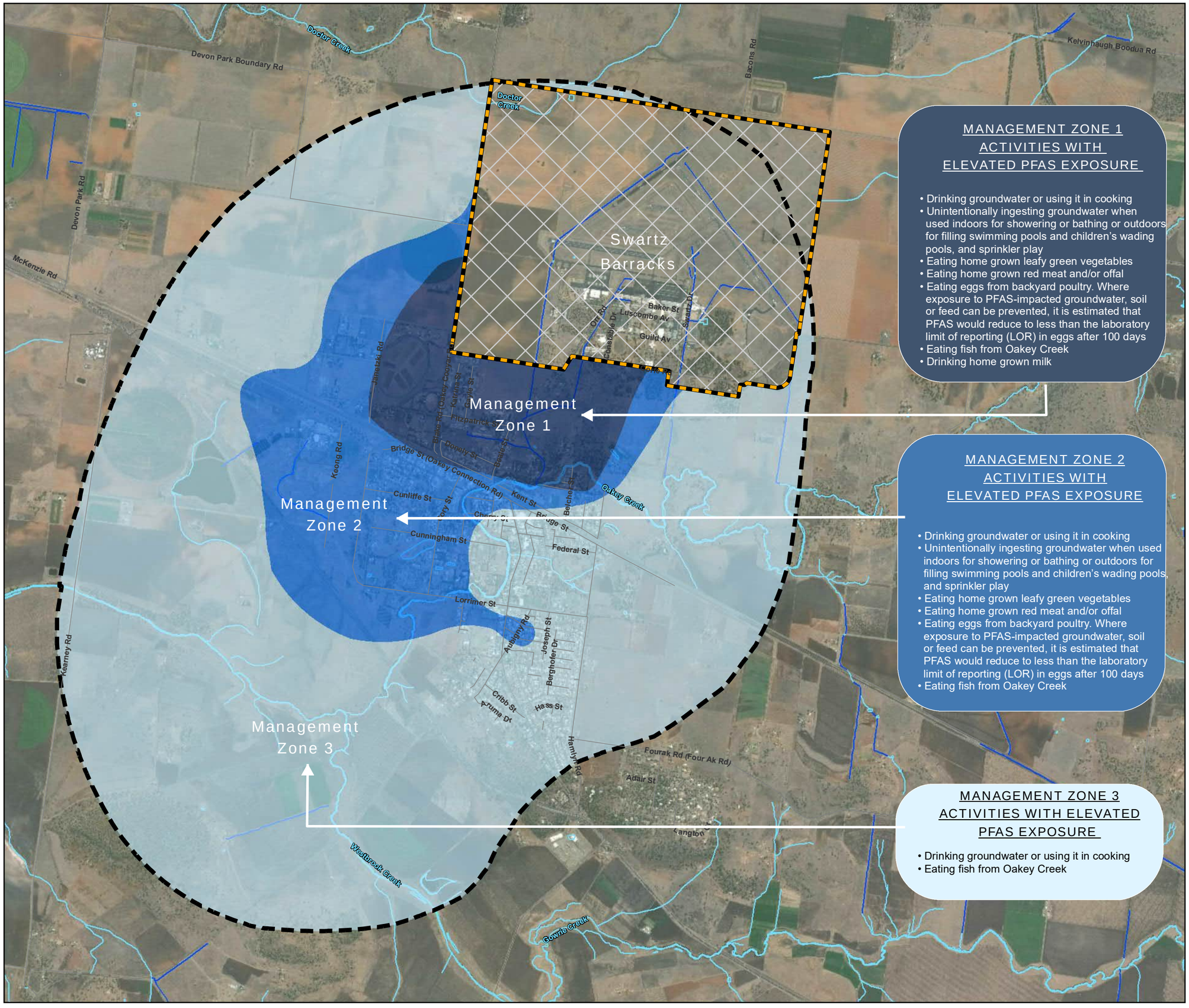
BASE LOCATION

PROJECT ID	60612563
CREATED BY	WW
LAST MODIFIED	Jacob Suchting; 05/12/2022
VERSION:	1

FIGURE 1

A3 size

Path: \\na.aecomnet.com\lfs\APAC\Brisbane-AUBNE1\Secure\Projects\606X\60612563\900_CAD_GIS\920_GIS\02_MXDs\PFAS_OMP_AACO Factual Report April 2022\P60612563_F1_SiteLocation_AACO&Brymaroo_RePathed.mxd



MANAGEMENT ZONE 1 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Unintentionally ingesting groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools, and sprinkler play
- Eating home grown leafy green vegetables
- Eating home grown red meat and/or offal
- Eating eggs from backyard poultry. Where exposure to PFAS-impacted groundwater, soil or feed can be prevented, it is estimated that PFAS would reduce to less than the laboratory limit of reporting (LOR) in eggs after 100 days
- Eating fish from Oakey Creek
- Drinking home grown milk

MANAGEMENT ZONE 2 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Unintentionally ingesting groundwater when used indoors for showering or bathing or outdoors for filling swimming pools and children's wading pools, and sprinkler play
- Eating home grown leafy green vegetables
- Eating home grown red meat and/or offal
- Eating eggs from backyard poultry. Where exposure to PFAS-impacted groundwater, soil or feed can be prevented, it is estimated that PFAS would reduce to less than the laboratory limit of reporting (LOR) in eggs after 100 days
- Eating fish from Oakey Creek

MANAGEMENT ZONE 3 ACTIVITIES WITH ELEVATED PFAS EXPOSURE

- Drinking groundwater or using it in cooking
- Eating fish from Oakey Creek

LEGEND

- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Management Area
- Swartz Barracks

0 0.25 0.5 1 km

SCALE 1:35,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 2: Management Zones - Activities with Elevated PFAS Exposure

PROJECT

PFAS OMP SWARTZ BARRACKS SAMPLING EVENT FACTUAL REPORT: October 2023

CLIENT

DEPARTMENT OF DEFENCE

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AECOM
www.aecom.com

DATUM GDA 1994. PROJECTION MGA ZONE 56

0 100 200 400 m

1:9,100 (when printed at A3)

LEGEND

- Site Boundary
- Groundwater Monitoring Locations - destroyed
- Groundwater Monitoring Locations

Data sources:

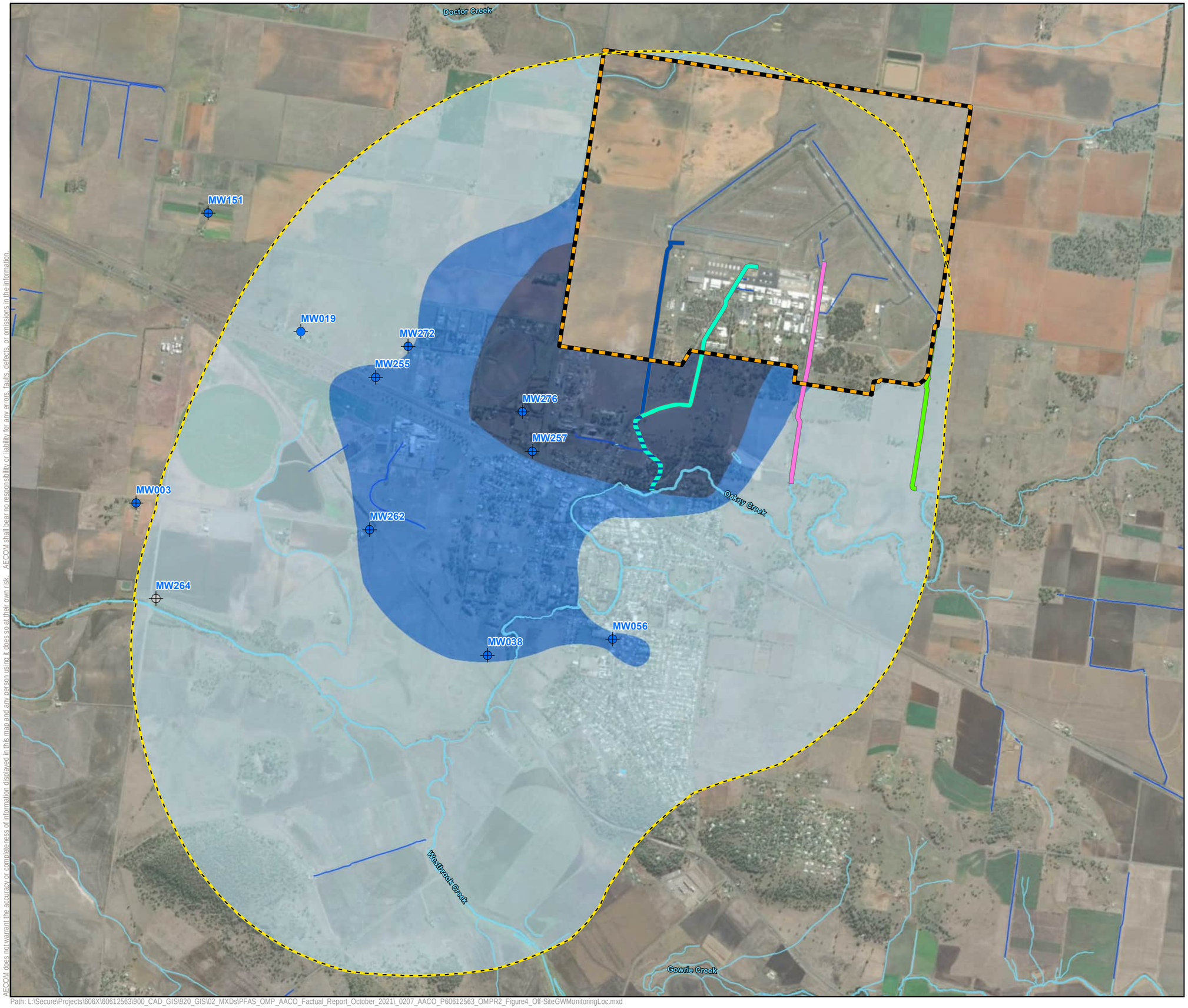
Base Layers: ESRI Basemaps Online
Street, Drainage Lines, Locality, Features: @ Street Pro 2011
© State of Queensland, 2017

CLIENT
DEPARTMENT OF DEFENCE

Figure 3: On-Base Groundwater Monitoring Locations

PFAS OMP SWARTZ BARRACKS SAMPLING EVENT FACTUAL REPORT: October 2023

PROJECT ID	60612563
CREATED BY	BM
LAST MODIFIED	22/07/2024
VERSION:	1



LEGEND

- Off-Site Groundwater Monitoring Locations
- Bores not accessible
- Drainage channel
- Watercourse/water body
- Management Zone 1
- Management Zone 2
- Management Zone 3
- Drain # 1
- Drain # 2
- Drain # 2 after confluence with Drain # 1
- Drain # 3
- Drain # 4
- Management Area
- Base Boundary

Note that three bores are not displayed for privacy reasons.

N

0 0.25 0.5 1 km

AECOM

SCALE 1:32,000

SIZE A3

SHEET **1 of 1**

COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 4: Off-Base Groundwater Monitoring Locations

PROJECT

PFAS OMP SWARTZ BARRACKS SAMPLING EVENT FACTUAL REPORT: OCTOBER 2023

CLIENT

DEPARTMENT OF DEFENCE

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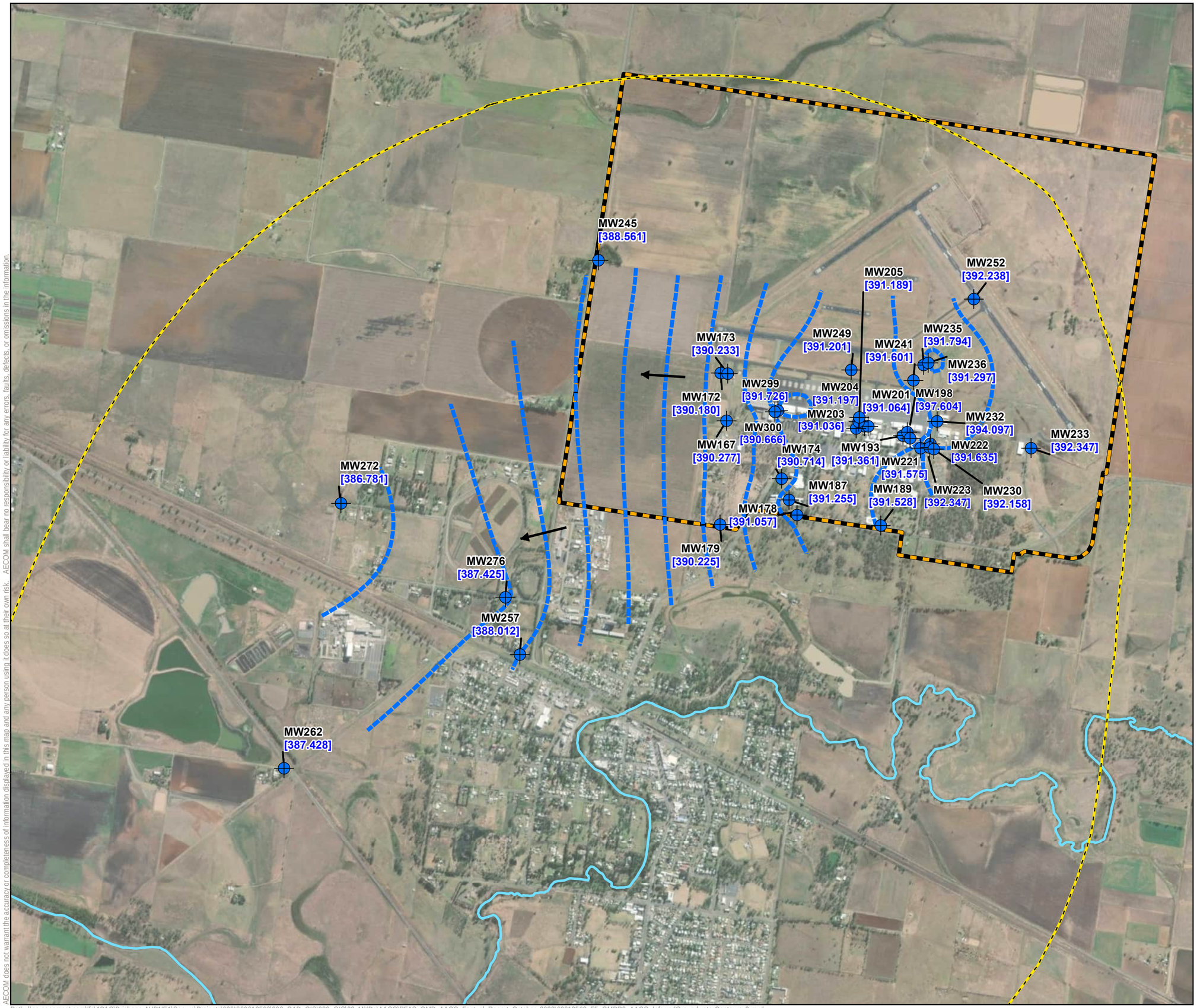

LEGEND

- Site Boundary
- Oakey Creek
- Management Area
- Groundwater Elevation Contour (mAHD)
- Groundwater Flow Direction
- Monitoring well / groundwater elevation (mAHD)

km
0 0.25 0.5

AECOM

SCALE 1:22,264
SIZE A3
SHEET **1 of 1**
COORDINATE SYSTEM GDA 1994 MGA Zone 56

TITLE

Figure 5: Inferred Groundwater Contours: Oakey Creek Alluvium: October 2023

PROJECT

PFAS OMP SWARTZ BARRACKS SAMPLING EVENT FACTUAL REPORT: OCTOBER 2023

CLIENT

DEPARTMENT OF DEFENCE

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Appendix B

Tables

Appendix B Tables

Table T1 Groundwater Gauging and Quality Parameter Field Measurement Results

Well ID	Date HydraSleeve™ Installed	Date HydraSleeve™ Sampled / Sampled Date	Depth of HydraSleeve™ deployment (mbgl)	Gauging Date	Well Depth (mbtoc)	Depth to LNAPL (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Corrected Groundwater Elevation (mAHD)	Condition of Gatic	DO (mg/L) *Field measurement*	EC (µS/cm) *Field measurement*	pH *Field measurement*	E_r (mV) *Field measurement*	E_h (mV)	Temp (°C) *Field measurement*	Turbidity	Water Colour	Odour	Sheen	Sample Method / Comments
MW003	Tap sample	25/10/2023	Not gauged - pumping equipment installed.									2.4	2444	7.28	-131.8	73.2	37.2	Clear	Clear	No odour	No sheen	Tap sample.
MW019	Tap sample	25/10/2023	Not gauged - pumping equipment installed.									3.5	2187	7.12	-0.4	204.6	25.8	Low	Brown	No odour	No sheen	Tap sample.
MW038	Tap sample	27/10/2023	Not gauged - pumping equipment installed.									2.57	886	7.73	134.10	339.1	22.2	Clear	Clear	No odour	No sheen	Tap sample.
MW134	Tap sample	25/10/2023	Not gauged - pumping equipment installed.									2.7	2068	7.04	-187.7	17.3	25	Clear	Clear	No odour	No sheen	Tap sample.
MW147	Tap sample	25/10/2023	Not gauged - pumping equipment installed.									1.75	3970.00	7.32	-100.10	104.90	38.8	Clear	Clear	--	--	Bore Functional. First flush from metal pipe in sun
MW151	Tap sample	25/10/2023	Not gauged - pumping equipment installed.									6.46	1897	6.99	-125.7	79.3	22.2	Clear	Clear	No odour	No sheen	Tap sample. Bore had been running for roughly an hour before sampling.
MW056	17/04/2022	25/10/2023	19.50	25/10/2023	21.25	-	9.125	-	-	-	-	3.01	2021	6.97	19.9	224.9	22.5	Clear	Clear	No odour	No sheen	HydraSleeve™.
MW167	12/04/2023	24/10/2023	14.00	24/10/2023	15.16	-	12.151	402.428	390.277	390.277	Good	2.21	2085	6.95	147.7	352.7	24	Medium	Clear/Cloudy	Organic odour	No sheen	HydraSleeve™.
MW172	12/04/2023	24/10/2023	16.50	24/10/2023	17.14	-	12.638	402.818	390.180	390.180	Good	4.08	1625	7.22	10.5	215.5	26.9	Medium	Brown	No odour	No sheen	HydraSleeve™.
MW173	12/04/2023	24/10/2023	16.50	24/10/2023	17.85	-	13.029	403.262	390.233	390.233	Good	3.77	2093	7.18	63.4	268.4	29.7	Medium	Clear/brown	No odour	No sheen	HydraSleeve™.
MW174	13/04/2023	24/10/2023	28.00	24/10/2023	31.29	-	13.358	404.072	390.714	390.714	Good	1.15	3412	7	59.2	264.2	26.2	Low	Clear	Weak sulfuric	No sheen	HydraSleeve™.
MW178	13/04/2023	24/10/2023	16.50	24/10/2023	17.6	-	12.456	403.513	391.057	391.057	Good	2.19	8977	7.01	60.5	265.5	26.3	Medium	clear	Organic odour	No sheen	HydraSleeve™.
MW179	13/04/2023	24/10/2023	19.00	24/10/2023	20.98	-	12.781	403.006	390.225	390.225	Good	0.97	4132	6.87	-142.6	62.4	28.4	Medium	clear	No odour	No sheen	HydraSleeve™.
MW187	13/04/2023	26/10/2023	17.50*	26/10/2023	18.31	-	13.321	404.576	391.255	391.255	Good	2.19	8977	7.01	6.05	211.05	26.3	Medium	clear	Organic odour	No sheen	HydraSleeve™.
MW189	13/04/2023	26/10/2023	20.00	26/10/2023	21.001	-	13.124	404.652	391.528	391.528	Good	0.59	4824	6.74	-128.6	76.4	21.8	Clear	Clear	Organic odour	No sheen	HydraSleeve™.
MW193	12/04/2023	24/10/2023	19.00	24/10/2023	21.63	14.244	14.339	405.630	391.291	391.361	Good	1.4	4598	6.75	32.8	237.8	29.2	Medium	Clear/Cloudy	Weak kerosene/HC odour	Sheen	HydraSleeve™.
MW198	12/04/2023	24/10/2023	13.00*	24/10/2023	13.47	-	7.901	405.505	397.604	397.604	Good	3.65	600	6.88	44.6	249.6	26.1	Clear	Clear	No odour	No sheen	HydraSleeve™.
MW201	12/04/2023	25/10/2023	19.00*	25/10/2023	19.84	-	13.736	404.800	391.064	391.064	Good	2.16	5951	6.79	92.4	297.4	20.9	Medium	Cloudy	No odour	No sheen	HydraSleeve™. Gatic cover/concrete is cracked.
MW202	12/04/2023	25/10/2023	18.50*	25/10/2023	19.19	-	13.806	405.000	391.194	391.194	Damaged	0.57	2512	6.86	86.7	291.7	21.5	Low	Clear	No odour	No sheen	HydraSleeve™.
MW203	12/04/2023	24/10/2023	19.00	24/10/2023	20.12	-	13.713	405.100	391.387	391.387	Good	2.9	2775	6.87	48.2	253.2	26.4	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW204	12/04/2023	24/10/2023	19.00*	24/10/2023	19.98	-	14.003	405.200	391.197	391.197	Good	3.76	5870	6.9	56.2	261.2	26.9	Medium	Brown	No odour	No sheen	HydraSleeve™.
MW205	12/04/2023	24/10/2023	19.00	24/10/2023	20.1	-	14.511	405.700	391.189	391.189	Good	3.46	4652	6.62	64.5	269.5	27.1	Medium	Brown/Cloudy	No odour	No sheen	HydraSleeve™.
MW207	12/04/2023	25/10/2023	19.00	25/10/2023	20.42	-	14.002	405.416	391.414	391.414	Good	0.64	4286	7.04	68.1	273.1	23.1	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW221	12/04/2023	25/10/2023	18.50*	25/10/2023	19.29	-	13.921	405.496	391.575	391.575	Good	1.15	1989	7.16	-37.5	167.5	24.6	High	Brown	No odour	No sheen	HydraSleeve™.
MW222	12/04/2023	25/10/2023	18.00*	25/10/2023	18.94	-	14.081	405.716	391.635	391.635	Good	2.72	2355	7.19	104	309	25.5	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW223	12/04/2023	25/10/2023	19.00	25/10/2023	20.07	-	13.147	405.845	392.698	392.698	Good	4.6	2309	6.99	-158.8	46.2	25.7	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW229	13/04/2023	25/10/2023	14.50	25/10/2023	15.72	-	3.473	405.533	402.060	402.060	Good	0.7	1716	7.5	-109.2	95.8	27	Clear	Clear	No odour	No sheen	HydraSleeve™.
MW230	12/04/2023	25/10/2023	18.00*	25/10/2023	18.98	-	13.258	405.416	392.158	392.158	Good	3.09	1932	7.04	-136.2	68.8	25.3	Medium	Cloudy	No odour	No sheen	HydraSleeve™.
MW232	12/04/2023	25/10/2023	11.00	25/10/2023	12.07	-	11.801	405.898	394.097	394.097	Good	5.23	568.1	6.99	-130.4	74.6	24.4	High	Brown	No odour	No sheen	Bailer used to collect water sample as there was insufficient water for HydraSleeve™ sampling.
MW233	13/04/2023	26/10/2023	17.00*	26/10/2023	17.83	-	14.123	406.470	392.347	392.347	Good	2.67	845	7.4	-31.4	173.6	22.8	high	brown	No odour	No sheen	HydraSleeve™.
MW235	11/04/2023	26/10/2023	21.50	26/10/2023	22.58	-	14.514	406.308	391.794	391.794	Good	2.95	1953	7	41.3	246.3	18.8	Medium	cloudy	No odour	No sheen	HydraSleeve™.
MW236	11/04/2023	26/10/2023	16.00*	26/10/2023	16.81	-	14.356	405.653	391.297	391.297	Good	1.67	1294	6.74	28.4	233.4	19.1	Medium	Clear/Cloudy	No odour	No sheen	HydraSleeve™.
MW241	11/04/2023	26/10/2023	17.00	26/10/2023	18.51	-	14.282	405.883	391.601	391.601	Good	4.43	796	7.11	36.1	241.1	19.7	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW243	14/04/2023	Not sampled	-	26/10/2023	6.86	-	-	-	-	-	Good	-	-	-	-	-	-	-	-	-	-	Well was dry.
MW245	13/04/2023	26/10/2023	21.00*	26/10/2023	21.95	-	14.42	402.981	388.561	388.561	Good	2.67	1540	6.88	-115.4	89.6	24.9	Clear	Clear	No odour	No sheen	HydraSleeve™.
MW249	11/04/2023	26/10/2023	18.00*	26/10/2023	18.74	-	13.568	404.769	391.201	391.201	Good	5.6	1550	7.25	25.2	230.2	20.8	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW252	11/04/2023	26/10/2023	15.50	26/10/2023	16.62	-	13.924	406.162	392.238	392.238	Good	2.12	535.8	6.86	13.6	218.6	19.9	Medium	Brown	No odour	No sheen	HydraSleeve™.
MW255	16/04/2022	26/10/2023	23.00	26/10/2023	24.07	-	11.41	397.784	386.374	386.374	Good	2.62	2821	7.13	9		22.5	Low	Clear/Cloudy	Organic odour	No Sheen	HydraSleeve™.
MW257	14/04/2023	26/10/2023	23.00*	26/10/2023	23.95	-	12.821	400.833	388.012	388.012	Good	0.67	2977	7.18	-221.7	-16.7	24.3	Medium	Clear	Sulfuorous	No sheen	HydraSleeve™.
MW262	14/04/2023	26/10/2023	16.70	26/10/2023	17.84	-	10.901	398.329	387.428	387.428	Good	2.83	1962	7.16	-94.5	110.5	23.9	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW264	14/04/2022	Not sampled	10.00	Not sampled	-	-	-	-	-	-	Good	-	-	-	-	-	-	-	-	-	-	Well not found.
MW269	16/08/2023	25/10/2023	87.00	25/10/2023	89.5	-	33.414	401.958	368.544	368.544	Good	2.84	1359	11.4	21.4	226.4	22.4	Clear	Clear	No odour	No sheen	HydraSleeve™.
MW272	13/04/2023	26/10/2023	19.00*	26/10/2023	19.98	-	11.191	397.972	386.781	386.781	Good	3.15	2507	7.21	-5.1	199.9	22.1	High	Brown	No odour	No sheen	HydraSleeve™.
MW276	13/04/2023	26/10/2023	19.00*	26/10/2023	19.83	-	13.049	400.474	387.425	387.425	Good	0.72	2275	7.06	-44.1	160.9	23.9	Medium	Clear/brownish	No odour	No sheen	HydraSleeve™.
MW299	12/04/2023	24/10/2023	14.50	24/10/2023	15.46	-	12.244	403.970	391.726	391.726	Good	1.3	5148	6.77	90	295	25.7	Low	Clear	No odour	No sheen	HydraSleeve™.
MW300	12/04/2023	24/10/2023	15.50*	24/10/2023	16.37	-	13.049	403.715	390.666	390.666	Good	1.33	5636	6.67	123.7	328.7	24.7	Low	Clear	No odour	No sheen	HydraSleeve™.
MW562	12/04/2023	26/10/2023	18.50*	26/10/2023	19.35	-	12.67	402.720	390.050	390.050	Good	0.92	1516	7.13	25.3	230.3	20	Medium	Clear	No odour	No sheen	HydraSleeve™.
MW563	12/04/2023	26/10/2023	15.50	26/10/2023	16.49	-	12.659	402.900	390.241	390.241	Good	5.31	1670	7.07	-2	203	22.5	Medium	Cloudy	No odour	No sheen	HydraSleeve™.

* Locations where depth of HydraSleeve™ installation is <1m of monitoring well base. No issues were identified during the installation of the HydraSleeves™.

Table T2 Groundwater PFAS Analytical Results

			Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids												Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				
		Sum of PFHxS and PFOS	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTeDA	FOSA	MeFOSE	EtFOSE	MeFOSA	EtFOSA	MeFOSAA	EtFOSAA	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	Sum of PFAS
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	LOR	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01
PFAS NEMP HEPA (2020), Drinking Water Guideline Value		**0.07**											**0.56**																		
PFAS NEMP HEPA (2020) Freshwater 99% Species Protection							*2E-04*						19																		

Site_ID	Field_ID	Date	Lab Report	Sample Code	Type																												
0207	0207_MW003_231025	25/10/2023	EB2333540	EB2333540001	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW019_231025	25/10/2023	EB2333536	EB2333536001	Normal	**0.09**	<0.02	<0.02	0.06	<0.02	*0.03*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.09
0207	0207_MW038_231027	27/10/2023	EB2333545	EB2333545001	Normal	**1.24**	0.06	0.05	0.4	0.03	*0.84*	<0.02	<0.1	<0.02	0.07	0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.53
0207	0207_MW056_231025	25/10/2023	EB2333542	EB2333542001	Normal	**0.35**	0.04	0.02	0.25	<0.02	*0.1*	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.46
0207	0207_MW134_231025	25/10/2023	EB2333532	EB2333532001	Normal	**0.26**	<0.02	<0.02	0.08	<0.02	*0.18*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.26
0207	0207_MW147_231025	25/10/2023	EB2334286	EB2334286001	Normal	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW151_231025	25/10/2023	EB2334299	EB2334299001	Normal	0.02	<0.02	<0.02	<0.01	<0.02	*0.02*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02
0207	0207_MW167_231024	24/10/2023	EB2333518	EB2333518001	Normal	**7.97**	0.74	0.6	3.21	0.29	*4.76*	<0.02	0.2	0.33	0.99	0.18	0.41	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	11.7
0207	0207_MW172_231024	24/10/2023	EB2333518	EB2333518002	Normal	**18.6**	0.94	0.87	4.55	0.39	*14*	<0.02	1.2	5.53	2.2	1.33	**1.25**	0.13	0.08	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.4	0.84	<0.05	35.7
0207	0207_MW173_231024	24/10/2023	EB2333518	EB2333518003	Normal	**4.51**	0.49	0.36	2.71	0.14	*1.8*	<0.02	0.4	1.32	1.28	0.59	**0.59**	0.12	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.15	<0.05	<0.05	9.95
0207	0207_QC100_231024	24/10/2023	EB2333518	EB2333518040	Field_D	**4.88**	0.41	0.4	2.94	0.16	*1.94*	<0.02	0.4	1.34	1.17	0.59	**0.59**	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.31	<0.05	<0.05	10.4
0207	0207_QC200_231024	24/10/2023	RN1410219	N23/022742	Interlab_D	**3.90**	0.39	0.3	1.8	0.094	*2.1*	<0.01	0.43	1.4	1.3	0.61	0.51	0.11	0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	0.036	<0.01	<0.01	12.1
0207	0207_MW174_231024	24/10/2023	EB2333518	EB2333518004	Normal	0.04	<0.02	<0.02	0.02	<0.02	*0.02*	<0.02	<0.1	0.04	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08
0207	0207_MW178_231024	24/10/2023	EB2333518	EB2333518005	Normal	<0.01	<0.04	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01
0207	0207_MW179_231024	24/10/2023	EB2333518	EB2333518006	Normal	**6.25**	0.62	0.48	2.6	0.23	*3.65*	<0.02	0.2	0.33	1.24	0.24	0.47	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	10.1
0207	0207_MW187_231026	26/10/2023	EB2333518	EB2333518007	Normal	**0.68**	<0.04	0.06	0.46	<0.02	*0.22*	<0.02	<0.1	0.03	0.06	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.85
0207	0207_MW189_231026	26/10/2023	EB2333518	EB2333518008	Normal	**0.18**	<0.02	0.02	0.1	<0.02	*0.08*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.2
0207	0207_MW193_231024	24/10/2023	EB2333518	EB2333518009	Normal	**19.6**	1.82	1.83	10.9	0.75	*8.65*	<0.02	4.5	0.98	2.89	0.78	**1.48**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.81	<0.05	<0.05	35.4
0207	0207_MW198_231024	24/10/2023	EB2333518	EB2333518010	Normal	**6.89**	0.07	0.11	1.06	0.16	*5.83*	<0.02	<0.1	0.1	0.16	0.06	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	7.67
0207	0207_MW201_231025	25/10/2023	EB2333518	EB2333518011	Normal	**139**	16.4	18.5	134	7.52	*4.89*	<0.09	3.1	5.82	21	3.84	**11.7**	<0.09	<0.09	<0.09	<0.09	<0.09	<0.23	<0.09	<0.23	<0.23	<0.23	<0.23	<0.09	<0.09	<0.09	0.74	<0.09	<0.09	228
0207	0207_QC101_231025	25/10/2023	EB2333518	EB2333518041	Field_D	**134**	19.8	18	128	6.51	*5.66*	<0.09	3.5	5.92	22.3	4.06	**11.3**	<0.09	<0.09	<0.09	<0.09	<0.09	<0.22	<0.09	<0.22	<0.22	<0.22	<0.22	<0.09	<0.09	<0.09	0.86	<0.09	<0.09	226
0207	0207_QC201_231025	25/10/2023	RN1410219	N23/022743	Interlab_D	**100**	12	11	98	3	*2.3*	<0.01	2.5	3.8	17	2.7	**5.7**	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	0.56	<0.01	<0.01	158.6
0207	0207_MW202_231025	25/10/2023	EB2333518	EB2333518012	Normal	**171**	7.49	7.45	71.4	4.34	*99.7*	<0.1	2	3.65	12.1	1.88	**5.95**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.26	<0.28	<0.26	<0.26	<0.26	<0.26	<0.1	<0.1	<0.1	<0.7	<0.1	<0.1	216
0207	0207_MW203_231024	24/10/2023	EB2333518	EB2333518013	Normal	**8.56**	1.11	1.2	7.94	0.13	*0.62*	<0.02	0.3	0.5	1.31	0.23	0.24	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	13.6
0207	0207_MW204_231024	24/10/2023	EB2333518	EB2333518014	Normal	**1500**	134	142	925	58.2	*575*	<0.5	22.8	35.8	136	23.2	***62.4***	<0.5	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<1.25	<1.25	<1.25	<0.5	<0.5	<0.5	<3.75	<0.5	<0.5	2110
0207	0207_MW205_231024	24/10/2023	EB2333518	EB2333518015	Normal	**20.6**	1.93	1.74	10.1	0.9	*10.5*	<0.02	0.5	0.83	2.16	0.25	**0.62**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	29.5
0207	0207_MW207_231025	25/10/2023	EB2333518	EB2333518016	Normal	**2.26**	0.18	0.18	1.42	0.06	*0.84*	<0.02	<0.1	0.09	0.16	0.06	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.07
0207	0207_MW221_231025	25/10/2023	EB2333518	EB2333518017	Normal	**4.3**	0.46	0.37	2.06	0.16	*2.24*	<0.02	0.2	0.28	0.82	0.23	0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	7.22
0207	0207_MW222_231025	25/10/2023	EB2333518	EB2333518018	Normal	**21.6**	0.68	0.57	4.31	0.46	*17.3*	<0.02	0.7	1.6	1.83	1	**1.72**	0.52	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.59	0.17	<0.05	31.5
0207	0207_MW223_231025	25/10/2023	EB2333518	EB2333518019	Normal	**13.8**	0.75	0.52	3.55	0.21	*10.2*	<0.02	6.9	32.5	12.8	9.62	**5.2**	0.24	0.07	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<2.6	0.58	<0.05	83.1
0207	0207_QC102_231025	25/10/2023	EB2333518	EB2333518042	Field_D	**15.1**	0.79	0.76	4.34	0.3	*10.8*	<0.02	7.7	30.6	14.6	9.84	**6.36**	0.28	0.07	<0.02	<0.02	<0.02	<0.05	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.05	0.62	<0.05	90.2
0207	0207_QC202_231025	25/10/2023	RN1410219	N23/022744	Interlab_D	**10.2**	0.61	0.55	2.6	0.18	*7.6*	<0.01	4.7	22	10	8	**3.2**	0.22	0.063	<0.01	<0.01	<0.02	<0.02	0.015	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	2.1	0.48	<0.01	62.3
0207	0207_MW229_231025	25/10/2023	EB2333518	EB2333518020	Normal	**56.6**	0.96	1	11.3	0.91	*45.3*	<0.02	0.2	0.4	2.21	0.19	**0.87**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	63.3
0207	0207_MW230_231025	25/10/2023	EB2333518	EB2333518021	Normal	**5.33**	0.46	0.38	2.34	0.14	*2.99*	<0.02	2	6.24	3.49	2.36	**1.81**	0.39	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.64	0.06	<0.05	23.3
0207	0207_MW232_231025	25/10/2023	EB2333518	EB2333518022	Normal	**10.3**	3.42	2.54	7.43	0.16	*2.87*	<0.02	2.7	9.1	7.15	2.06	**2.17**	0.16	0.14	<0.02	<0.02	<0.02	<0.05	<0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.67	<0.05	40.8
0207	0207_MW233_231026	26/10/2023	EB2333518	EB2333518023	Normal	**0.83**	0.11	0.1	0.68	<0.02	*0.15*	<0.02	<0.1	0.03	0.08	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.19
0207	0207_MW235_231026	26/10/2023	EB2333518	EB2333518024	Normal	**15.3**	5.72	3.84	9.19	0.24	*6.14*	<0.02	1.6	2.03	6.75	0.36	0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	36.2
0207	0207_MW236_231026	26/10/2023	EB2333518	EB2333518025	Normal	**2.62**	2.11	0.85	2.22	0.04	*0.4*	<0.02	0.8	0.82	2.12	0.17	0.24	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.05	<0.05	9.88
0207	0207_MW241_231026	26/10/2023	EB2333518	EB2333518026	Normal	**5.1**	0.15	0.13	1.1	0.09	*4*	<0.02	<0.1	0.06	0.14	0.04	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.82	<0.05	<0.05	6.65
0207	0207_MW245_231026	26/10/2023	EB2333518	EB2333518028	Normal	**0.33**	0.05	0.04	0.21	<0.02	*0.12*	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.73	<0.05	<0.05	2.19
0207	0207_MW249_231026	26/10/2023	EB2333518	EB2333518029	Normal	**3.61**	0.91	0.87	3.45	0.04	*0.16*	<0.02	0.2	0.45	1.11	0.16	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	7.47
0207	0207_MW252_231026	26/10/2023	EB2333518	EB2333518030	Normal	**12.1**	0.84	0.52	2.17	0.12	*9.91*	<0.02	0.3	0.5	0.65	0.21	0.36	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.28	<0.05	<0.05	15.9
0207	0207_QC103_231026	26/10/2023	EB2333518	EB2333518043	Field_D	**15.9**	0.89	0.72	3.74	0.23	*12.2*	<0.02	0.4	0.78	1.08	0.22	0.48	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	20.8
0207	0207_QC203_231026	26/10/2023	RN1410219	N23/022745	Interlab_D	**11.2**	0.73	0.61	2.5	0.15	*8.7*	<0.01	0.37	0.58	0.92	0.27	0.35	0.024	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	0.067	<0.01	<0.01	15.3
0207	0207_MW255_231026	26/10/2023	EB2333518	EB2333518031	Normal	**0.29**	0.03	0.03	0.19	<0.02	*0.1*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.35
0207	0207_MW257_231026	26/10/2023	EB2333518	EB2333518032	Normal	**0.09**	<0.04	<0.02	<0.11	<0.02	*0.09*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.09
0207	0207_MW262_231026	26/10/2023	EB2333518	EB2333518033	Normal	**0.55**	0.08	0.06	0.32	<0.02	*0.23*	<0.02	<0.1	<0.02	0.05	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.78
0207	0207_MW269_231025	25/10/2023	EB2333547	EB2333547001	Normal	**0.09**	<0.02	<0.02	0.04	<0.02	*0.05*	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	0.15
0207	0207_MW272_231026	26/10/2023	EB2333518	EB2333518034	Normal	**0.54**	0.07	0.06	0.38	<0.02	*0.16*	<0.02	<0.1	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.76
0207	0207_MW276_231026	26/10/2023	EB2333518	EB2333518035	Normal	**19.4**	0.93	0.98	7.69	0.51	*11.7*	<0.02	0.3	0.34	1.27	0.23	**0.61**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	24.6
0207	0207_MW299_231024	24/10/2023	EB2333518	EB2333518036	Normal	**163**	17.6	15	71.4	4.3	*91.7*	<0.1	5.7	10.3	37.3	9.01	**18.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.24	<0.24	<0.24	<0.1	<0.1	<0.1	0.69	<0.1	<0.1	282
0207	0207_MW300_231024	24/10/2023	EB2333518	EB2333518037	Normal	**91.5**	6.37	6.34	32	3.9	*59.5*	<0.02	2.1	3.06	11	2.53	**7.52**	<0.02	<0.02	<0.02	<0.02	<0.04	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	0.62	<0.05	<0.05	135
0207	0207_MW562_231026	26/10/2023	EB2333518	EB2333518038	Normal	**0.21**	0.11	0.06	0.21	<0.02	<0.04	<0.02	<0.1	0.14	0.12	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.67
0207	0207_MW563_231026	26/10/2023	EB2333518	EB2333518039	Normal	**19.4**	2.75	2.96	18.3	0.27	*1.06*	<0.02	0.6	1.09	3.54	0.63	**0.88**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.1	<0.05	<0.05	32.1
0207	0207_QC104_231026	26/10/2023	EB2333518	EB2333518044	Field_D	**20.6**	2.7	3.25	19.6	0.3	*0.99*	<0.02	0.7	1.2	3.66	0.65	**0.91**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	34
0207	0207_QC204_231026	26/10/2023	RN1410219	N23/022746	Interlab_D	**13.6**	1.6	1.9	13	0.18	*0.64*	<0.01	0.7	0.95	2.4	0.58	**0.68**	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	22.7

LOR is limit of reporting
µg/L is micrograms per litre
-' denotes no analysis undertaken
<' denotes concentration is less than
NEMP is National Environmental Mangement Plan
Denotes first time detection above LOR
Denotes new exceedance of human health guideline values

Appendix C

Analytical Data Validation

Appendix C Analytical Data Validation

DATA VALIDATION REPORT

Project No.:	60612563	**Validation by:** AA		**Date:**	23/11/23
Client:	Department of Defence				
Site:	Swartz Barracks				
Matrix type:	Groundwater	**Data verified by:** JP		**Date:**	01/12/22
No. of primary samples:	46 groundwater				
Laboratory:	ALS (Brisbane), NMI (Sydney)	**Project Manager:** JP			
Lab reference:	EB233518, EB233532, EB233536, EB233540, EB233542, EB233545, EB233547, EB2334286, EB2334299, RN1410219				

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

Field QA/QC

Sampling personnel	Sampling was conducted by experienced AECOM field staff between 24 and 27 October 2023.
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.
HydraSleeve™ duration	All HydraSleeves™ were installed in monitoring wells for a minimum of 24 hours.
Chain of Custody (COC)	COC documents were completed as per AECOM procedures.
Rinsate Blank (refer to **Table C1**)	Rinsate blank samples were collected at a frequency of one per day of sampling (3 in total). No rinsate was collected on the 27 of October since the only sample collected was a tap sample and no equipment was reused. All rinsate blank samples were collected from the decontaminated interface probe. PFAS concentrations were reported below the LOR for all analytes. This indicates that the equipment was decontaminated adequately during the sampling event.
Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in ten primary samples with a total of 5 duplicate / triplicate pairs for 46 samples indicating a field QC frequency of 11%.
Handling and preservation	Primary, duplicate, and triplicate samples were received preserved and chilled at the laboratory. Triplicate samples were submitted to NMI laboratory. All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.

Laboratory QA/QC

Holding time compliance	All samples were extracted and analysed within the recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the NMI also a NATA accredited laboratory.

Frequency of laboratory QC	The laboratory reported a sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except for EB2333518 where laboratory duplicates (3.45%) and matrix spikes (1.72%) were below the expected rates of 10% and 5%, respectively. There were 58 samples in the batch. The reason for insufficient laboratory and matrix spikes being analysed for the above batches is due to the way the laboratory assigns the duplicates and matrix spikes. These are assigned every 20 samples and may include samples from other submissions. The laboratory LIMS assigns laboratory QC to samples within the analytical run. Although additional bottles were included the LIMS system is not able to create runs to allocate samples with the additional bottles to allow for frequency compliance. This is not expected to impact data quality. This issue is being addressed with the laboratory.
Method Blank	No method blank value outliers were reported in any of the laboratory reports.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples.
Laboratory control spike recovery	Laboratory Control Spikes (LCS) recoveries were within the control limits across all primary laboratory batches.
Matrix spike recovery	All Matrix Spike (MS) recoveries (where reported) were within control limits, except: • EB2333518 PFHxS and PFOS in sample 0207_QC103_231026 where the matrix spike recovery was not determined as the background level was greater or equal to 4x spike level. • EB2333532, EB2333536, EB2333540 EB2333545, EB2333547: PFHxS and PFOS in an anonymous sample where the matrix spike recovery was not determined as the background level was greater or equal to 4x spike level. • EB2334299, EB2334286: MeFOSA in an anonymous sample had a recovery (154%) greater than the upper data quality objective (130%). The laboratory reports noted that high matrix spike recovery was deemed acceptable as all associated analyte results were less than LOR. These non-conformances are not expected to impact data quality.
Surrogate spike recovery	Surrogate spike recoveries were within control limits.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels except for PFOS for NEMP (HEPA, 2020) ecological guideline values for the 99% protection of freshwater species. The potential exists for concentrations of PFOS to exceed the adopted guideline in the three samples where PFOS was reported not to exceed the laboratory LOR. This should be taken into consideration when interpreting and using this data quantitatively where results are reported below LOR.
Field duplicate RPDs (refer to **Tables C2**)	Field duplicate RPDs were reported within control limits except the following (the sample with the higher concentration is in bold): • 0207_MW223_231025 and **0207_QC102_231025** for PFPeS (38%) • 0207_MW252_231026 and **0207_QC103_231026** for PFPeS (32%), PFPeA (44%), PFHxA (50%), PFHxS (53%) and PFHpS (63%) The reason for the differences is possibly due to low mixing of the water within the HydraSleeve™.

Field triplicate RPDs (refer to **Tables C2)**	Field triplicate RPDs were reported above control limits for all the triplicate samples collected (the sample with the higher concentration is in bold): • **0207_MW173_231024** and 0207_QC200_231024 for PFHxS (40%) • **0207_MW201_231025** and 0207_QC201_231025 for PFBS (31%), PFHxS (31%), PFHpA (35%), PFPeA (42%), PFPeS (51%), PFOA (69%), PFOS (72%) and PFHpS (86%) • **0207_MW223_231025** and 0207_QC202_231025 for PFHxS (31%), PFBA (38%), PFPeA (39%) and PFOA (48%) • 0207_MW252_231026 and **0207_QC203_231026** for PFHxA (34%) • **0207_MW563_231026** and 0207_QC204_231026 for PFHxS (34%), PFHxA (38%), PFPeS (44%), PFOS (49%) and PFBS (53%) The differences are likely to be due to different extraction methods between the laboratories and low mixing of water within the HydraSleeve™. The elevated RPDs are not considered to affect data interpretation for use in this report. With one minor exception, none of the triplicate sample concentrations were higher than the primary sample concentrations.
Other Observations	
Other Observations	The following observations were noted on report EB2333518. • Whole bottle extraction of 0207_QC104_231026 was not possible because samples required dilution due to the presence of high PFAS concentrations. • Particular samples showed matrix interference indicated by internal standard recovery lower than 50%. Deemed acceptable as all associated analytes are less than the limit of reporting. • Particular samples required dilution due to the presence of high-level contaminants. LOR values were adjusted accordingly.

Table C1 Rinsate Blank Analytical Results

Lab Report Number	EB2333518	EB2333518	EB2333518
Field ID	0207_QC300_231024	0207_QC301_231025	0207_QC302_231026
Sampled_Date	24/10/2023	25/10/2023	26/10/2023
Sample Type	Rinsate	Rinsate	Rinsate

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

Table C2 Groundwater Duplicate and Triplicate Analytical Results

Lab Report Number		EB2333518	EB2333518		EB2333518	RN1410219		EB2333518	EB2333518		EB2333518	RN1410219		EB2333518	EB2333518	
Field ID		0207_MW173_231024	0207_QC100_231024	**RPD**	0207_MW173_231024	0207_QC200_231024	**RPD**	0207_MW201_231025	0207_QC101_231025	**RPD**	0207_MW201_231025	0207_QC201_231025	**RPD**	0207_MW223_231025	0207_QC102_231025	**RPD**
Sampled Date		24/10/2023	24/10/2023		24/10/2023	24/10/2023		25/10/2023	25/10/2023		25/10/2023	25/10/2023		25/10/2023	25/10/2023	
Type		Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate		Primary	Duplicate	
Chemical Name	**Units**	**EQL**														
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.49	0.41	18	0.49	0.39	23	16.4	19.8	19	**16.4**	**12**	31	0.75	0.79	5
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.36	0.4	11	0.36	0.3	18	18.5	18	3	**18.5**	**11**	51	**0.52**	**0.76**	38
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	2.71	2.94	8	**2.71**	**1.8**	40	134	128	5	**134**	**98**	31	3.55	4.34	20
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.14	0.16	13	0.14	0.094	39	7.52	6.51	14	**7.52**	**3**	86	0.21	0.3	35
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	1.8	1.94	7	1.8	2.1	15	4.89	5.66	15	**4.89**	**2.3**	72	10.2	10.8	6
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.02	<0.02	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0.4	0.4	0	0.4	0.43	7	3.1	3.5	12	3.1	2.5	21	6.9	7.7	11
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	1.32	1.34	2	1.32	1.4	6	5.82	5.92	2	**5.82**	**3.8**	42	32.5	30.6	6
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	1.28	1.17	9	1.28	1.3	2	21	22.3	6	21	17	21	12.8	14.6	13
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.59	0.59	0	0.59	0.61	3	3.84	4.06	6	**3.84**	**2.7**	35	9.62	9.84	2
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.59	0.59	0	0.59	0.51	15	11.7	11.3	3	**11.7**	**5.7**	69	5.2	6.36	20
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0.12	0.11	9	0.12	0.11	9	<0.09	<0.09	0	<0.09	<0.01	0	0.24	0.28	15
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	0.07	0.07	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.02	<0.02	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.02	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0	<0.02	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.23	<0.22	0	<0.23	<0.02	0	<0.05	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.02	0.04	67
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.23	<0.22	0	<0.23	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.23	<0.22	0	<0.23	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.23	<0.22	0	<0.23	<0.02	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.23	<0.22	0	<0.23	<0.02	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.02	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.02	<0.02	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.05	<0.05	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.15	0.31	70	0.15	0.036	123	0.74	0.86	15	0.74	0.56	28	<2.6	3.05	16
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	0.58	0.62	7
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.09	<0.09	0	<0.09	<0.01	0	<0.05	<0.05	0

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: NL (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C2 Groundwater Duplicate and Triplicate Analytical Results

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Lab Report Number	EB2333518	RN1410219		EB2333518	EB2333518		EB2333518	RN1410219		EB2333518	EB2333518		EB2333518	RN1410219	
Field ID	0207_MW223_231025	0207_QC202_231025	RPD	0207_MW252_231026	0207_QC103_231026	RPD	0207_MW252_231026	0207_QC203_231026	RPD	0207_MW563_231026	0207_QC104_231026	RPD	0207_MW563_231026	0207_QC204_231026	RPD
Sampled Date	25/10/2023	25/10/2023		26/10/2023	26/10/2023		26/10/2023	26/10/2023		26/10/2023	26/10/2023		26/10/2023	26/10/2023	
Type	Primary	Triplicate		Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	
Chemical Name	**Units**	**EQL**													
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.75	0.61	21	0.84	0.89	6	0.84	0.73	14	2.75	2.7	2	**2.75**	**1.6**	**53**
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.52	0.55	6	**0.52**	**0.72**	**32**	0.52	0.61	16	2.96	3.25	9	**2.96**	**1.9**	**44**
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	**3.55**	**2.6**	**31**	**2.17**	**3.74**	**53**	2.17	2.5	14	18.3	19.6	7	**18.3**	**13**	**34**
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.21	0.18	15	**0.12**	**0.23**	**63**	0.12	0.15	22	0.27	0.3	11	0.27	0.18	40
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	10.2	7.6	29	9.91	12.2	21	9.91	8.7	13	1.06	0.99	7	**1.06**	**0.64**	**49**
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	**6.9**	**4.7**	**38**	0.3	0.4	29	0.3	0.37	21	0.6	0.7	15	0.6	0.7	15
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	**32.5**	**22**	**39**	**0.5**	**0.78**	**44**	0.5	0.58	15	1.09	1.2	10	1.09	0.95	14
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	12.8	10	25	**0.65**	**1.08**	**50**	**0.65**	**0.92**	**34**	3.54	3.66	3	**3.54**	**2.4**	**38**
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	9.62	8	18	0.21	0.22	5	0.21	0.27	25	0.63	0.65	3	0.63	0.58	8
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	**5.2**	**3.2**	**48**	0.36	0.48	29	0.36	0.35	3	0.88	0.91	3	0.88	0.68	26
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0.24	0.22	9	0.02	0.03	40	0.02	0.024	18	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	0.07	0.063	11	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0	<0.06	<0.06	0	<0.06	<0.02	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	0.015	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.06	<0.06	0	<0.06	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.06	<0.06	0	<0.06	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0	<0.06	<0.06	0	<0.06	<0.02	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0	<0.06	<0.06	0	<0.06	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<2.6	2.1	0	0.28	<0.05	139	0.28	0.067	123	<0.1	0.06	0	<0.1	0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.58	0.48	19	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: NL (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix D

Chain of Custody Forms

AECOM

Chain of Custody

COC Page 1 of 4

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number: [redacted]

Specifications: Please report in ESdat format	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Report Format: ESdat	7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
1	0207_MW167_231024	24.10.23		X				X		2 x 20 ml	X		
2	0207_MW172_231024	24.10.23		X				X		2 x 20 ml	X		
3	0207_MW173_231024	24.10.23		X				X		2 x 20 ml	X		
4	0207_MW174_231024	24.10.23		X				X		2 x 20 ml	X		
5	0207_MW178_231024	24.10.23		X				X		2 x 20 ml	X		
6	0207_MW179_231024	24.10.23		X				X		2 x 20 ml	X		
7	0207_MW187_231026	26.10.23		X				X		2 x 20 ml	X		
8	0207_MW189_231026	26.10.23		X				X		2 x 20 ml	X		
9	0207_MW193_231024	24.10.23		X				X		2 x 20 ml	X		
10	0207_MW198_231024 dup	24.10.23		X				X		2 x 20 ml	X		
11	0207_MW201_231025	25.10.23		X				X		2 x 20 ml	X		
12	0207_MW202_231025	25.10.23		X				X		2 x 20 ml	X		
13	0207_MW203_231024	24.10.23		X				X		2 x 20 ml	X		
14	0207_MW204_231024	24.10.23		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2333518

Telephone : 61-7-3243 7222

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

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Report & invoice [redacted]

Lab Report No. | Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: 27.10.23	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed: [redacted]	Date: 27.10.23	Received by:	Signed:	Date:

1355

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Chain of Custody

COC Page 2 of 4

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number: [redacted]

Specifications: ~~Please report in ESdat format~~

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
15	0207_MW205_231024	24.10.23		X				X		2 x 20 ml	X		
16	0207_MW207_231025	25.10.23		X				X		2 x 20 ml	X		
17	0207_MW221_231025	25.10.23		X				X		2 x 20 ml	X		
18	0207_MW222_231025	25.10.23		X				X		2 x 20 ml	X		
19	0207_MW223_231025	25.10.23		X				X		2 x 20 ml	X		
20	0207_MW229_231025	25.10.23		X				X		2 x 20 ml	X		
21	0207_MW230_231025	25.10.23		X				X		2 x 20 ml	X		
22	0207_MW232_231025	25.10.23		X				X		2 x 20 ml	X		
23	0207_MW233_231026	26.10.23		X				X		2 x 20 ml	X		
24	0207_MW235_231026	26.10.23		X				X		2 x 20 ml	X		
25	0207_MW236_231026	26.10.23		X				X		2 x 20 ml	X		
26	0207_MW241_231026	26.10.23		X				X		2 x 20 ml	X		
27	0207_MW242_231026	26.10.23		X				X		2 x 20 ml	X		
28	0207_MW245_231026	26.10.23		X				X		2 x 20 ml	X		

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted] Signed: [redacted] Date: 27.10.23

Received by: [redacted] Signed: [redacted] Date: 27.10.23

Relinquished by: Signed: Date:

Received by: Signed: Date:

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AECOM

Chain of Custody

COC Page 3 of 4

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number: [redacted]

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Report Format: ESdat	7. Project Manage [redacted]

Lab. ID	Sample ID	Sampling Date	Matrix			Preservation				Container (No. & type)	Analysis Request: EP231X (PFAS Std 28)	Analysis Request: HOLD	Notes
			soil	water	sed	fil'ed	acid	ice	other				
29	0207_MW249_231026	26.10.23		X				X		2 x 20 ml	X		
30	0207_MW252_231026	26.10.23		X				X		2 x 20 ml	X		
31	0207_MW255_231026	26.10.23		X				X		2 x 20 ml	X		
32	0207_MW257_231026	26.10.23		X				X		2 x 20 ml	X		
33	0207_MW262_231026	26.10.23		X				X		2 x 20 ml	X		
	~~0207_MW264_2310~~			X				X		~~2 x 20 ml~~	X		
	~~0207_MW269_2310~~			X				X		~~2 x 20 ml~~	X		
34	0207_MW272_231026	26.10.23		X				X		2 x 20 ml	X		
35	0207_MW276_231026	26.10.23		X				X		2 x 20 ml	X		
36	0207_MW299_231024	24.10.23		X				X		2 x 20 ml	X		
37	0207_MW300_231024	24.10.23		X				X		2 x 20 ml	X		
38	0207_MW562_231026	26.10.23		X				X		2 x 20 ml	X		
39	0207_MW563_231026	26.10.23		X				X		2 x 20 ml	X		
40	0207_QC100_231024	24.10.23		X				X		6 x 20 ml	X		
	0207_QC200_231024	24.10.23		X				X		4 x 20 ml	X		FWO ANI SYD

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Esky ID:

Relinquished by: [redacted]	Signed: [redacted]	Date: 27.10.23	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed: [redacted]	Date: 27.10.23 1355	Received by:	Signed:	Date:

AECOM

Chain of Custody

COC Page 4 of 4

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted]
Mobile Number: [redacted]

Project Name: QLD_0207_PFASOMP_23
AECOM Project #: 60612563 2.1
Purchase Order No: 60612563 2.1

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat
7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
41	0207_QC101_231025	25.10.23		X				X		6 x 20 ml	X		
	0207_QC201_231025	25.10.23		X				X		4 x 20 ml	X		FWD NMI SYD
42	0207_QC102_231025	25.10.23		X				X		1 x 125 ml	X		
	0207_QC202_231025	25.10.23		X				X		1 x 125 ml	X		FWD NMI SYD
43	0207_QC103_231026	26.10.23		X				X		1 x 125 ml	X		
	0207_QC203_231026	26.10.23		X				X		1 x 125 ml	X		FWD NMI SYD
44	0207_QC104_231026	26.10.23		X				X		1 x 125 ml	X		
	0207_QC204_231026	26.10.23		X				X		1 x 125 ml	X		FWD NMI SYD
45	0207_QC300_231024	24.10.23		X				X		2 x 20 ml	X		
46	0207_QC301_231025	25.10.23		X				X		2 x 20 ml	X		
47	0207_QC302_231026	26.10.23		X				X		2 x 20 ml	X		
	~~0207_QC303_2310~~			X				X		2 x 20 ml	X		
	~~0207_QC304_2310~~			X				X		2 x 20 ml	X		

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No | Esky ID

Relinquished by: [redacted] Signed: [redacted] Date: 27.10.23
Received by: [redacted] Signed: [redacted] Date: 27.10.23

Relinquished by: Signed: Date:
Received by: Signed: Date:

1355

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Numbe [redacted]

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW134_231025	25.10.23		X				X		2 x 20 ml	X		

Environmental Division Brisbane
Work Order Reference
EB2333532

Telephone : +61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No. | Esky ID

Relinquished by: [redacted] Signed: [redacted] Date: 27/10/2023 27.10.23

Received by: [redacted] Signed: [redacted] Date: 27.10.23 1355

Relinquished by: Signed: Date:

Received by: Signed: Date:

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted]
Mobile Number: [redacted]

Project Name: QLD_0207_PFASOMP_23
AECOM Project #: 60612563 2.1
Purchase Order No: 60612563 2.1

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat
7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW019_231025	25.10.23		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2333536

Telephone : +61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No | Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: ~~17/10/2023~~ 25.10.23	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed:	Date: 27.10.23 1355	Received by:	Signed:	Date:

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number [redacted]

Specifications: Please report in ESdat format	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW003_231025	25.10.23		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2333540

Telephone : +61-7-3243 7222

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice: [redacted]

Lab Report No. | Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: ~~17/08/2023~~ 27.10.23	Relinquished by:	Signed:	Date:
Received by:	Signed:	Date:	Received by:	Signed:	Date:

27.10.23
1355

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted]
Mobile Number: [redacted]

Project Name: QLD_0207_PFASOMP_23
AECOM Project #: 60612563 2.1
Purchase Order No: 60612563 2.1

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat
7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW056_231025	25.10.23		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2333542

Telephone : +61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the file name the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No | Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: 27/10/2023	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed:	Date:	Received by:	Signed:	Date:

27.10.23
1355

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number [redacted]

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manage [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW038_231027	27.10.23		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2333545

Telephone : + 61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoic [redacted]

Lab Report No | Esky ID

Relinquished by [redacted]	Signe [redacted]	Date: 17/08/2023	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signe [redacted]	Date: 27.10.23	Received by:	Signed:	Date:

27.10.23
1355

AECOM

Chain of Custody

COC Page 1 of 1

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Numbe [redacted]

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
	0207_MW269_231025	25.10.23		X				X		2 x 20 ml	X		

Environmental Division Brisbane
Work Order Reference
EB2333547

telephone : +61-7-3243 7222

Comments: **Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME**

Temp. received: °C

Report & invoice [redacted]

Lab Report No | Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: ~~17/09/2023~~ 27.10.23	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed:	Date: 27-10-23 1355	Received by:	Signed:	Date:

AECOM

Chain of Custody

COC Page 1 of 4

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number: [redacted]

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filtered	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
1	0207_MW167_231024	24.10.23		X				X		2 x 20 ml	X		
2	0207_MW172_231024	24.10.23		X				X		2 x 20 ml	X		
3	0207_MW173_231024	24.10.23		X				X		2 x 20 ml	X		
4	0207_MW174_231024	24.10.23		X				X		2 x 20 ml	X		
5	0207_MW178_231024	24.10.23		X				X		2 x 20 ml	X		
6	0207_MW179_231024	24.10.23		X				X		2 x 20 ml	X		
7	0207_MW187_231026	26.10.23		X				X		2 x 20 ml	X		
8	0207_MW189_231026	26.10.23		X				X		2 x 20 ml	X		
9	0207_MW193_231024	24.10.23		X				X		2 x 20 ml	X		
10	0207_MW198_231024	24.10.23		X				X		2 x 20 ml	X		
11	0207_MW201_231025	25.10.23		X				X		2 x 20 ml	X		
12	0207_MW202_231025	25.10.23		X				X		2 x 20 ml	X		
13	0207_MW203_231024	24.10.23		X				X		2 x 20 ml	X		
14	0207_MW204_231024	24.10.23		X				X		2 x 20 ml	X		

Environmental Division
Brisbane
Work Order Reference
EB2334286

Telephone : +61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice [redacted]

Lab Report No. | Esky ID

Relinquished by: [redacted]	Signed [redacted]	Date: 27.10.23	Relinquished by:	Signed:	Date:
Received by: [redacted]	Signed	Date: 27.10.23	Received by:	Signed:	Date:

1355

AECOM

Chain of Custody

COC Page 1 of 4

AECOM Australia Pty Ltd

[redacted]

Email reports to: [redacted]

Laboratory Details
Lab. Name: ALS Brisbane
Lab. Address:
Contact Name:
Lab. Ref:

Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY/139/19

Sampled By: [redacted] **Project Name:** QLD_0207_PFASOMP_23 **AECOM Project #:** 60612563 2.1 **Purchase Order No:** 60612563 2.1

Mobile Number: [redacted]

Specifications: ~~Please report in ESdat format~~

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	

6. Report Format: ESdat 7. Project Manager: [redacted]

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filtered	acid	ice	other	Container (No. & type)	EP231X (PFAS Std 28)	HOLD	Notes
1	0207_MW167_231024	24.10.23		X				X		2 x 20 ml	X		
2	0207_MW172_231024	24.10.23		X				X		2 x 20 ml	X		
3	0207_MW173_231024	24.10.23		X				X		2 x 20 ml	X		
4	0207_MW174_231024	24.10.23		X				X		2 x 20 ml	X		
5	0207_MW178_231024	24.10.23		X				X		2 x 20 ml	X		
6	0207_MW179_231024	24.10.23		X				X		2 x 20 ml	X		
7	0207_MW187_231026	26.10.23		X				X		2 x 20 ml	X		
8	0207_MW189_231026	26.10.23		X				X		2 x 20 ml	X		
9	0207_MW193_231024	24.10.23		X				X		2 x 20 ml	X		
10	0207_MW198_231024	24.10.23		X				X		2 x 20 ml	X		
11	0207_MW201_231025	25.10.23		X				X		2 x 20 ml	X		
12	0207_MW202_231025	25.10.23		X				X		2 x 20 ml	X		
13	0207_MW203_231024	24.10.23		X				X		2 x 20 ml	X		
14	0207_MW204_231024	24.10.23		X				X		2 x 20 ml	X		

Environmental Division Brisbane
Work Order Reference
EB2334299
Telephone : +61-7-3243 7222

Comments: Please send ESdat files to DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Temp. received: °C

Report & invoice: [redacted]

Lab Report No: Eskey ID:

Relinquished by: [redacted] Signed: [redacted] Date: 27.10.23

Received by: [redacted] Signed: [redacted] Date: 27.10.23

Relinquished by: Signed: Date:

Received by: Signed: Date:

1355

Appendix E

Laboratory Analytical Certificates and QA / QC Reports

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2333532**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: Carsten Emrich
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 02-Nov-2023	Scheduled Reporting Date	: **02-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333532-001	25-Oct-2023 00:00	0207_MW134_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- A4 - AU Tax Invoice (INV) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333532**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023 16:12
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW134_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333532-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.08**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.18**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW134_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333532-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.26**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.26**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.26**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**132**	----	----	----	----
13C8-PFOA	----	0.02	%		**104**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333532**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333532**	Page	: 1 of 4
Client	: [redacted]	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW134_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW134_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW134_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW134_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW134_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2333536**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 02-Nov-2023	Scheduled Reporting Date	: **02-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333536-001	25-Oct-2023 00:00	0207_MW019_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- A4 - AU Tax Invoice (INV)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333536**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023 16:13
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW019_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333536-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.06**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.03**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW019_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333536-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.09**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.09**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.09**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**128**	----	----	----	----
13C8-PFOA	----	0.02	%		**105**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333536**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333536**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW019_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW019_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW019_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW019_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW019_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2333540**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 02-Nov-2023	Scheduled Reporting Date	: **02-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333540-001	25-Oct-2023 00:00	0207_MW003_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

DERP reports

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- A4 - AU Tax Invoice (INV)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333540**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023 16:25
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW003_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333540-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW003_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333540-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**111**	----	----	----	----
13C8-PFOA	----	0.02	%		**109**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333540**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333540**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW003_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW003_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW003_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW003_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW003_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2333542**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 03-Nov-2023	Scheduled Reporting Date	: **03-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333542-001	25-Oct-2023 00:00	0207_MW056_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

DERP reports

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- A4 - AU Tax Invoice (INV) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333542**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023 16:41
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW056_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333542-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.02**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.25**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.10**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.04**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW056_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333542-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.46**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.35**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.44**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	----	----	----	----
13C8-PFOA	----	0.02	%		**110**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333542**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333542**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 03-Nov-2023
Sampler	[redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW056_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW056_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW056_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW056_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW056_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2333545**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 03-Nov-2023	Scheduled Reporting Date	: **03-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333545-001	27-Oct-2023 00:00	0207_MW038_231027	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom. [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP reports

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- A4 - AU Tax Invoice (INV)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333545**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: +61 07 3553 2000	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023 16:22
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW038_231027	----	----	----	----
				Sampling date / time	27-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333545-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.06**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.05**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.40**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.03**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.84**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.07**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.02**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.06**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW038_231027	----	----	----	----
				Sampling date / time	27-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333545-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.53**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.24**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.45**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**119**	----	----	----	----
13C8-PFOA	----	0.02	%		**112**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333545**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333545**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0207_MW038_231027	**27-Oct-2023**	**01-Nov-2023**	24-Apr-2024	✓	**02-Nov-2023**	24-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0207_MW038_231027	**27-Oct-2023**	**01-Nov-2023**	24-Apr-2024	✓	**02-Nov-2023**	24-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0207_MW038_231027	**27-Oct-2023**	**01-Nov-2023**	24-Apr-2024	✓	**02-Nov-2023**	24-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0207_MW038_231027	**27-Oct-2023**	**01-Nov-2023**	24-Apr-2024	✓	**02-Nov-2023**	24-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0207_MW038_231027	**27-Oct-2023**	**01-Nov-2023**	24-Apr-2024	✓	**02-Nov-2023**	24-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2333547**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: + [redacted]
Facsimile	: [redacted]	Facsimile	: + [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 02-Nov-2023	Scheduled Reporting Date	: **02-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333547-001	25-Oct-2023 00:00	0207_MW269_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

DERP reports

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- A4 - AU Tax Invoice (INV) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333547**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023 16:16
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW269_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333547-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.04**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW269_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333547-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.06**	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.15**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.09**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.15**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	----	----	----	----
13C8-PFOA	----	0.02	%		**111**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333547**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333547**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	[redacted]
Project	: 60612563 2.1 QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 03-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW269_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW269_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW269_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW269_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW269_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2334286**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 30-Oct-2023 07:17	Issue Date	: 02-Nov-2023
Client Requested Due Date	: 08-Nov-2023	Scheduled Reporting Date	: **08-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2334286-001	25-Oct-2023 00:00	0207_MW147_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- A4 - AU Tax Invoice (INV) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2334286**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 30-Oct-2023 07:17
Order number	: 60612563 2.1	Date Analysis Commenced	: 03-Nov-2023
C-O-C number	: ----	Issue Date	: 08-Nov-2023 16:34
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X-PFAS: High MS recovery deemed acceptable as all associated analyte results are less than LOR
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW147_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2334286-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW147_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2334286-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	----	----	----	----
13C8-PFOA	----	0.02	%		**98.8**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2334286**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	[redacted]	Contact	[redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 30-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 03-Nov-2023
C-O-C number	: ----	Issue Date	: 08-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5405113) - continued									
EB2333966-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5405113)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	97.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	94.9	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	93.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	117	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	105	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5405113)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	88.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	90.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.1	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.3	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	92.1	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5405113)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	141	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.5	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.8	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	96.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5405113)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5405113) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	93.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	107	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	110	64.2	133
EP231P: PFAS Sums (QCLot: 5405113)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5405113)							
EB2333966-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	101	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	94.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	90.5	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	72.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	86.1	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	91.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5405113)							
EB2333966-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	95.5	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	98.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	102	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	86.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	94.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	89.3	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	93.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5405113)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5405113) - continued							
EB2333966-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	94.2	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	# 154	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	106	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	91.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	112	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	115	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5405113)							
EB2333966-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	125	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	100	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	114	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2334286**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 30-Oct-2023
Site	: ----	Issue Date	: 08-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231C: Perfluoroalkyl Sulfonamides	EB2333966--002	Anonymous	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	31506-32-8	154 %	70.0-130%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW147_231025	**25-Oct-2023**	**06-Nov-2023**	22-Apr-2024	✓	**07-Nov-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW147_231025	**25-Oct-2023**	**06-Nov-2023**	22-Apr-2024	✓	**07-Nov-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW147_231025	**25-Oct-2023**	**06-Nov-2023**	22-Apr-2024	✓	**07-Nov-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW147_231025	**25-Oct-2023**	**06-Nov-2023**	22-Apr-2024	✓	**07-Nov-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW147_231025	**25-Oct-2023**	**06-Nov-2023**	22-Apr-2024	✓	**07-Nov-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2334299**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	[redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 3
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 30-Oct-2023 07:17	Issue Date	: 02-Nov-2023
Client Requested Due Date	: 08-Nov-2023	Scheduled Reporting Date	: **08-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2334299-001	25-Oct-2023 00:00	0207_MW151_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- A4 - AU Tax Invoice (INV) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **EB2334299**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: +[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 30-Oct-2023 07:17
Order number	: 60612563 2.1	Date Analysis Commenced	: 03-Nov-2023
C-O-C number	: ----	Issue Date	: 08-Nov-2023 16:21
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X-PFAS: High MS recovery deemed acceptable as all associated analyte results are less than LOR
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW151_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2334299-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW151_231025	----	----	----	----
				Sampling date / time	25-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2334299-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	----	----	----	----
13C8-PFOA	----	0.02	%		**93.9**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2334299**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: +[redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 30-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 03-Nov-2023
C-O-C number	: ----	Issue Date	: 08-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5405113) - continued									
EB2333966-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5405113)									
EB2333966-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5405113)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	97.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	94.9	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	93.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	117	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	105	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5405113)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	88.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	90.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.1	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.3	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	92.1	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5405113)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	141	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.5	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.8	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	96.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5405113)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5405113) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	93.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	107	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	110	64.2	133
EP231P: PFAS Sums (QCLot: 5405113)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5405113)							
EB2333966-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	101	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	94.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	90.5	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	72.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	86.1	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	91.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5405113)							
EB2333966-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	95.5	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	98.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	102	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	86.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	94.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	89.3	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	93.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5405113)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5405113) - continued							
EB2333966-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	94.2	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	# 154	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	106	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	91.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	112	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	115	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5405113)							
EB2333966-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	125	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	100	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	114	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2334299**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 30-Oct-2023
Site	: ----	Issue Date	: 08-Nov-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612563 2.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231C: Perfluoroalkyl Sulfonamides	EB2333966--002	Anonymous	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	31506-32-8	154 %	70.0-130%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	Due for extraction	Evaluation	***Date analysed***	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW151_231025	**30-Oct-2023**	**06-Nov-2023**	27-Apr-2024	✓	**07-Nov-2023**	27-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_MW151_231025	**30-Oct-2023**	**06-Nov-2023**	27-Apr-2024	✓	**07-Nov-2023**	27-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_MW151_231025	**30-Oct-2023**	**06-Nov-2023**	27-Apr-2024	✓	**07-Nov-2023**	27-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_MW151_231025	**30-Oct-2023**	**06-Nov-2023**	27-Apr-2024	✓	**07-Nov-2023**	27-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_MW151_231025	**30-Oct-2023**	**06-Nov-2023**	27-Apr-2024	✓	**07-Nov-2023**	27-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB2333518**		
Client	: [redacted]	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Facsimile	: [redacted]	Facsimile	: [redacted]
Project	: QLD_0207_PFASOMP_23	Page	: 1 of 5
Order number	: 60612563 2.1	Quote number	: ES2022AECOMAU0018 (SY/139/19 v4 60612563_2.1)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 27-Oct-2023 13:55	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 06-Nov-2023	Scheduled Reporting Date	: **06-Nov-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.3°C - Ice present
Receipt Detail	: MEDIUM HARD ESKY	No. of samples received / analysed	: 48 / 46

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised that extra samples (0207_MW147_231025 and 0207_MW151_231025 ALS ID# 48-49) were received in addition to the samples listed on the COC. These samples have been added to the end of the work order and will remain on hold unless we are otherwise advised. If you would like to discuss this, please contact ALS Client Services.**
- **Please be advised that samples (0207_QC200_231024, 0207_QC201_231025, 0207_QC202_231025, 0207_QC203_231026 and 0207_QC204_231026) were forward to NMI SYD as per the submitted Chain of Custody. Please note a forwarding fee of $50 will incur. If you would like to discuss this, please contact ALS client services.**
- ***27/10/2023*: SRN has been resent to acknowledge the correction to the Project identification. For any further information regarding these adjustments please contact client services at ALSEnviro.Brisbane@alsglobal.com.**
- **Please be advised that sample "0207_MW242_231026" ALS ID #27 was not received at the laboratory. If you would like to discuss this please contact ALS client services.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333518-001	24-Oct-2023 00:00	0207_MW167_231024		✓
EB2333518-002	24-Oct-2023 00:00	0207_MW172_231024		✓
EB2333518-003	24-Oct-2023 00:00	0207_MW173_231024		✓
EB2333518-004	24-Oct-2023 00:00	0207_MW174_231024		✓
EB2333518-005	24-Oct-2023 00:00	0207_MW178_231024		✓
EB2333518-006	24-Oct-2023 00:00	0207_MW179_231024		✓
EB2333518-007	26-Oct-2023 00:00	0207_MW187_231026		✓
EB2333518-008	26-Oct-2023 00:00	0207_MW189_231026		✓
EB2333518-009	24-Oct-2023 00:00	0207_MW193_231024		✓
EB2333518-010	24-Oct-2023 00:00	0207_MW198_231024		✓
EB2333518-011	25-Oct-2023 00:00	0207_MW201_231025		✓
EB2333518-012	25-Oct-2023 00:00	0207_MW202_231025		✓
EB2333518-013	24-Oct-2023 00:00	0207_MW203_231024		✓
EB2333518-014	24-Oct-2023 00:00	0207_MW204_231024		✓
EB2333518-015	24-Oct-2023 00:00	0207_MW205_231024		✓
EB2333518-016	25-Oct-2023 00:00	0207_MW207_231025		✓
EB2333518-017	25-Oct-2023 00:00	0207_MW221_231025		✓
EB2333518-018	25-Oct-2023 00:00	0207_MW222_231025		✓
EB2333518-019	25-Oct-2023 00:00	0207_MW223_231025		✓
EB2333518-020	25-Oct-2023 00:00	0207_MW229_231025		✓
EB2333518-021	25-Oct-2023 00:00	0207_MW230_231025		✓
EB2333518-022	25-Oct-2023 00:00	0207_MW232_231025		✓
EB2333518-023	26-Oct-2023 00:00	0207_MW233_231026		✓
EB2333518-024	26-Oct-2023 00:00	0207_MW235_231026		✓
EB2333518-025	26-Oct-2023 00:00	0207_MW236_231026		✓
EB2333518-026	26-Oct-2023 00:00	0207_MW241_231026		✓
EB2333518-028	26-Oct-2023 00:00	0207_MW245_231026		✓
EB2333518-029	26-Oct-2023 00:00	0207_MW249_231026		✓
EB2333518-030	26-Oct-2023 00:00	0207_MW252_231026		✓
EB2333518-031	26-Oct-2023 00:00	0207_MW255_231026		✓
EB2333518-032	26-Oct-2023 00:00	0207_MW257_231026		✓
EB2333518-033	26-Oct-2023 00:00	0207_MW262_231026		✓
EB2333518-034	26-Oct-2023 00:00	0207_MW272_231026		✓
EB2333518-035	26-Oct-2023 00:00	0207_MW276_231026		✓
EB2333518-036	24-Oct-2023 00:00	0207_MW299_231024		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2333518-037	24-Oct-2023 00:00	0207_MW300_231024		✓
EB2333518-038	26-Oct-2023 00:00	0207_MW562_231026		✓
EB2333518-039	26-Oct-2023 00:00	0207_MW563_231026		✓
EB2333518-040	24-Oct-2023 00:00	0207_QC100_231024		✓
EB2333518-041	25-Oct-2023 00:00	0207_QC101_231025		✓
EB2333518-042	25-Oct-2023 00:00	0207_QC102_231025		✓
EB2333518-043	26-Oct-2023 00:00	0207_QC103_231026		✓
EB2333518-044	26-Oct-2023 00:00	0207_QC104_231026		✓
EB2333518-045	24-Oct-2023 00:00	0207_QC300_231024		✓
EB2333518-046	25-Oct-2023 00:00	0207_QC301_231025		✓
EB2333518-047	26-Oct-2023 00:00	0207_QC302_231026		✓
EB2333518-048	25-Oct-2023 00:00	0207_MW147_231025	✓	
EB2333518-049	25-Oct-2023 00:00	0207_MW151_231025	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- A4 - AU Tax Invoice (INV)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

CERTIFICATE OF ANALYSIS

Work Order	: **EB2333518**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: +[redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023 13:55
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 07-Nov-2023 10:36
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 48		
No. of samples analysed	: 46		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Whole bottle extraction was not possible for sample '0207_QC104_231026' (EB2333518-044). Samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X- PFAS: Particular samples showed matrix interference indicated by internal standard recovery lower than 50%. This is deemed acceptable as all associated analytes are less than the limit of reporting.
- EP231X- PFAS: Particular samples required dilution due to the presence of high-level contaminants. LOR values have been adjusted accordingly. The LORs for particular samples has been raised further due to matrix interference.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW167_231024	0207_MW172_231024	0207_MW173_231024	0207_MW174_231024	0207_MW178_231024
				Sampling date / time	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-001	EB2333518-002	EB2333518-003	EB2333518-004	EB2333518-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.74**	**0.94**	**0.49**	<0.02	<0.04
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.60**	**0.87**	**0.36**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**3.21**	**4.55**	**2.71**	**0.02**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.29**	**0.39**	**0.14**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**4.76**	**14.0**	**1.80**	**0.02**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.2**	**1.2**	**0.4**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.33**	**5.53**	**1.32**	**0.04**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.99**	**2.20**	**1.28**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.18**	**1.33**	**0.59**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.41**	**1.25**	**0.59**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.13**	**0.12**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	**0.08**	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW167_231024	0207_MW172_231024	0207_MW173_231024	0207_MW174_231024	0207_MW178_231024
				Sampling date / time	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-001	EB2333518-002	EB2333518-003	EB2333518-004	EB2333518-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**2.40**	**0.15**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	**0.84**	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**11.7**	**35.7**	**9.95**	**0.08**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**7.97**	**18.6**	**4.51**	**0.04**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**10.8**	**34.2**	**9.33**	**0.08**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**118**	**96.6**	**92.4**	**92.3**	**110**
13C8-PFOA	----	0.02	%		**97.5**	**102**	**104**	**99.8**	**98.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW179_231024	0207_MW187_231026	0207_MW189_231026	0207_MW193_231024	0207_MW198_231024
				Sampling date / time	24-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-006	EB2333518-007	EB2333518-008	EB2333518-009	EB2333518-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.62**	<0.04	<0.02	**1.82**	**0.07**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.48**	**0.06**	**0.02**	**1.83**	**0.11**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.60**	**0.46**	**0.10**	**10.9**	**1.06**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.23**	<0.02	<0.02	**0.75**	**0.16**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**3.65**	**0.22**	**0.08**	**8.65**	**5.83**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.2**	<0.1	<0.1	**4.5**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.33**	**0.03**	<0.02	**0.98**	**0.10**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.24**	**0.06**	<0.02	**2.89**	**0.16**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.24**	<0.02	<0.02	**0.78**	**0.06**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.47**	**0.02**	<0.01	**1.48**	**0.12**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW179_231024	0207_MW187_231026	0207_MW189_231026	0207_MW193_231024	0207_MW198_231024
				Sampling date / time	24-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-006	EB2333518-007	EB2333518-008	EB2333518-009	EB2333518-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	**0.81**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**10.1**	**0.85**	**0.20**	**35.4**	**7.67**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**6.25**	**0.68**	**0.18**	**19.6**	**6.89**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**9.35**	**0.79**	**0.18**	**32.8**	**7.40**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**91.1**	**101**	**105**	**112**
13C8-PFOA	----	0.02	%		**103**	**102**	**101**	**106**	**102**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW201_231025	0207_MW202_231025	0207_MW203_231024	0207_MW204_231024	0207_MW205_231024
				Sampling date / time	25-Oct-2023 00:00	25-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-011	EB2333518-012	EB2333518-013	EB2333518-014	EB2333518-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**16.4**	**7.49**	**1.11**	**134**	**1.93**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**18.5**	**7.45**	**1.20**	**142**	**1.74**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**134**	**71.4**	**7.94**	**925**	**10.1**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**7.52**	**4.34**	**0.13**	**58.2**	**0.90**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**4.89**	**99.7**	**0.62**	**575**	**10.5**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**3.1**	**2.0**	**0.3**	**22.8**	**0.5**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**5.82**	**3.65**	**0.50**	**35.8**	**0.83**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**21.0**	**12.1**	**1.31**	**136**	**2.16**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**3.84**	**1.88**	**0.23**	**23.2**	**0.25**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**11.7**	**5.95**	**0.24**	**62.4**	**0.62**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.23	<0.26	<0.05	<1.25	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.09	<0.28	<0.02	<0.50	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.23	<0.26	<0.05	<1.25	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.23	<0.26	<0.05	<1.25	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW201_231025	0207_MW202_231025	0207_MW203_231024	0207_MW204_231024	0207_MW205_231024
				Sampling date / time	25-Oct-2023 00:00	25-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-011	EB2333518-012	EB2333518-013	EB2333518-014	EB2333518-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.23	<0.26	<0.05	<1.25	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.23	<0.26	<0.05	<1.25	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.09	<0.10	<0.02	<0.50	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.09	<0.10	<0.05	<0.50	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.74**	<0.70	<0.05	<3.75	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.09	<0.10	<0.05	<0.50	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.09	<0.10	<0.05	<0.50	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**228**	**216**	**13.6**	**2110**	**29.5**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**139**	**171**	**8.56**	**1500**	**20.6**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**201**	**204**	**12.2**	**1910**	**26.9**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**107**	**91.4**	**119**	**94.9**
13C8-PFOA	----	0.02	%		**102**	**103**	**99.4**	**103**	**103**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW207_231025	0207_MW221_231025	0207_MW222_231025	0207_MW223_231025	0207_MW229_231025
				Sampling date / time	25-Oct-2023 00:00	25-Oct-2023 00:00	25-Oct-2023 00:00	25-Oct-2023 00:00	25-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-016	EB2333518-017	EB2333518-018	EB2333518-019	EB2333518-020
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.18**	**0.46**	**0.68**	**0.75**	**0.96**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.18**	**0.37**	**0.57**	**0.52**	**1.00**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.42**	**2.06**	**4.31**	**3.55**	**11.3**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.06**	**0.16**	**0.46**	**0.21**	**0.91**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.84**	**2.24**	**17.3**	**10.2**	**45.3**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**0.2**	**0.7**	**6.9**	**0.2**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.09**	**0.28**	**1.60**	**32.5**	**0.40**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.16**	**0.82**	**1.83**	**12.8**	**2.21**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.06**	**0.23**	**1.00**	**9.62**	**0.19**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.08**	**0.40**	**1.72**	**5.20**	**0.87**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.52**	**0.24**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	**0.03**	**0.07**	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.06
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.06
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.06

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0207_MW207_231025	0207_MW221_231025	0207_MW222_231025	0207_MW223_231025	0207_MW229_231025
			Sampling date / time	25-Oct-2023 00:00	25-Oct-2023 00:00	25-Oct-2023 00:00	25-Oct-2023 00:00	25-Oct-2023 00:00
Compound	CAS Number	LOR	Unit	EB2333518-016	EB2333518-017	EB2333518-018	EB2333518-019	EB2333518-020
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	**0.59**	<2.60	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	**0.17**	**0.58**	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**3.07**	**7.22**	**31.5**	**83.1**	**63.3**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**2.26**	**4.30**	**21.6**	**13.8**	**56.6**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**2.83**	**6.69**	**29.9**	**82.1**	**61.4**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**103**	**116**	**106**	**117**	**95.3**
13C8-PFOA	----	0.02	%	**97.1**	**101**	**103**	**100**	**97.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW230_231025	0207_MW232_231025	0207_MW233_231026	0207_MW235_231026	0207_MW236_231026
				Sampling date / time	25-Oct-2023 00:00	25-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-021	EB2333518-022	EB2333518-023	EB2333518-024	EB2333518-025
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.46**	**3.42**	**0.11**	**5.72**	**2.11**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.38**	**2.54**	**0.10**	**3.84**	**0.85**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.34**	**7.43**	**0.68**	**9.19**	**2.22**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.14**	**0.16**	<0.02	**0.24**	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.99**	**2.87**	**0.15**	**6.14**	**0.40**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**2.0**	**2.7**	<0.1	**1.6**	**0.8**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**6.24**	**9.10**	**0.03**	**2.03**	**0.82**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**3.49**	**7.15**	**0.08**	**6.75**	**2.12**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**2.36**	**2.06**	<0.02	**0.36**	**0.17**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**1.81**	**2.17**	**0.04**	**0.30**	**0.24**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.39**	**0.16**	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.03**	**0.14**	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.06	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW230_231025	0207_MW232_231025	0207_MW233_231026	0207_MW235_231026	0207_MW236_231026
				Sampling date / time	25-Oct-2023 00:00	25-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-021	EB2333518-022	EB2333518-023	EB2333518-024	EB2333518-025
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.64**	**0.18**	<0.05	<0.05	**0.11**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.06**	**0.67**	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**23.3**	**40.8**	**1.19**	**36.2**	**9.88**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**5.33**	**10.3**	**0.83**	**15.3**	**2.62**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**22.4**	**37.8**	**1.09**	**32.1**	**8.99**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**93.9**	**104**	**102**	**90.8**	**99.9**
13C8-PFOA	----	0.02	%		**98.9**	**99.8**	**99.5**	**104**	**104**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW241_231026	0207_MW245_231026	0207_MW249_231026	0207_MW252_231026	0207_MW255_231026
				Sampling date / time	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-026	EB2333518-028	EB2333518-029	EB2333518-030	EB2333518-031
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.15**	**0.05**	**0.91**	**0.84**	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.13**	**0.04**	**0.87**	**0.52**	**0.03**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.10**	**0.21**	**3.45**	**2.17**	**0.19**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.09**	<0.02	**0.04**	**0.12**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**4.00**	**0.12**	**0.16**	**9.91**	**0.10**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**0.2**	**0.3**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.06**	<0.02	**0.45**	**0.50**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.14**	**0.04**	**1.11**	**0.65**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.04**	<0.02	**0.16**	**0.21**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.12**	<0.01	**0.12**	**0.36**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.02**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW241_231026	0207_MW245_231026	0207_MW249_231026	0207_MW252_231026	0207_MW255_231026
				Sampling date / time	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-026	EB2333518-028	EB2333518-029	EB2333518-030	EB2333518-031
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.82**	**1.73**	<0.05	**0.28**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**6.65**	**2.19**	**7.47**	**15.9**	**0.35**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**5.10**	**0.33**	**3.61**	**12.1**	**0.29**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**6.43**	**2.15**	**6.56**	**15.2**	**0.32**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.5**	**92.9**	**115**	**101**	**92.1**
13C8-PFOA	----	0.02	%		**103**	**104**	**104**	**103**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW257_231026	0207_MW262_231026	0207_MW272_231026	0207_MW276_231026	0207_MW299_231024
				Sampling date / time	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-032	EB2333518-033	EB2333518-034	EB2333518-035	EB2333518-036
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.04	**0.08**	**0.07**	**0.93**	**17.6**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.06**	**0.06**	**0.98**	**15.0**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.11	**0.32**	**0.38**	**7.69**	**71.4**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.51**	**4.30**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.09**	**0.23**	**0.16**	**11.7**	**91.7**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	**0.3**	**5.7**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	**0.34**	**10.3**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.05**	**0.07**	**1.27**	**37.3**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**0.23**	**9.01**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.04**	**0.02**	**0.61**	**18.6**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.24
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.24
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.24

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW257_231026	0207_MW262_231026	0207_MW272_231026	0207_MW276_231026	0207_MW299_231024
				Sampling date / time	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-032	EB2333518-033	EB2333518-034	EB2333518-035	EB2333518-036
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.24
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.24
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.10
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.10
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	**0.69**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.10
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.10
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.09**	**0.78**	**0.76**	**24.6**	**282**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.09**	**0.55**	**0.54**	**19.4**	**163**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.09**	**0.72**	**0.70**	**23.1**	**262**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**91.9**	**106**	**84.8**	**96.0**	**107**
13C8-PFOA	----	0.02	%		**109**	**99.8**	**101**	**103**	**97.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW300_231024	0207_MW562_231026	0207_MW563_231026	0207_QC100_231024	0207_QC101_231025
				Sampling date / time	24-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00	25-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-037	EB2333518-038	EB2333518-039	EB2333518-040	EB2333518-041
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**6.37**	**0.11**	**2.75**	**0.41**	**19.8**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**6.34**	**0.06**	**2.96**	**0.40**	**18.0**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**32.0**	**0.21**	**18.3**	**2.94**	**128**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**3.90**	<0.02	**0.27**	**0.16**	**6.51**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**59.5**	<0.04	**1.06**	**1.94**	**5.66**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**2.1**	<0.1	**0.6**	**0.4**	**3.5**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**3.06**	**0.14**	**1.09**	**1.34**	**5.92**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**11.0**	**0.12**	**3.54**	**1.17**	**22.3**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**2.53**	<0.02	**0.63**	**0.59**	**4.06**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**7.52**	**0.03**	**0.88**	**0.59**	**11.3**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.11**	<0.09
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.09
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.06	<0.05	<0.06	<0.05	<0.22
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.06	<0.05	<0.06	<0.05	<0.22
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.06	<0.05	<0.06	<0.05	<0.22

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_MW300_231024	0207_MW562_231026	0207_MW563_231026	0207_QC100_231024	0207_QC101_231025
				Sampling date / time	24-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00	25-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-037	EB2333518-038	EB2333518-039	EB2333518-040	EB2333518-041
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.06	<0.05	<0.06	<0.05	<0.22
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.06	<0.05	<0.06	<0.05	<0.22
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.09
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.62**	<0.05	<0.10	**0.31**	**0.86**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**135**	**0.67**	**32.1**	**10.4**	**226**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**91.5**	**0.21**	**19.4**	**4.88**	**134**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**125**	**0.61**	**28.8**	**9.69**	**201**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.7**	**105**	**121**	**126**	**126**
13C8-PFOA	----	0.02	%		**101**	**103**	**104**	**102**	**106**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC102_231025	0207_QC103_231026	0207_QC104_231026	0207_QC300_231024	0207_QC301_231025
				Sampling date / time	25-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00	25-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-042	EB2333518-043	EB2333518-044	EB2333518-045	EB2333518-046
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.79**	**0.89**	**2.70**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.76**	**0.72**	**3.25**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**4.34**	**3.74**	**19.6**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.30**	**0.23**	**0.30**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**10.8**	**12.2**	**0.99**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**7.7**	**0.4**	**0.7**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**30.6**	**0.78**	**1.20**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**14.6**	**1.08**	**3.66**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**9.84**	**0.22**	**0.65**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**6.36**	**0.48**	**0.91**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.28**	**0.03**	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.07**	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.06	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.06	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.06	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC102_231025	0207_QC103_231026	0207_QC104_231026	0207_QC300_231024	0207_QC301_231025
				Sampling date / time	25-Oct-2023 00:00	26-Oct-2023 00:00	26-Oct-2023 00:00	24-Oct-2023 00:00	25-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EB2333518-042	EB2333518-043	EB2333518-044	EB2333518-045	EB2333518-046
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.06	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.06	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**3.05**	<0.05	**0.06**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.62**	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**90.2**	**20.8**	**34.0**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**15.1**	**15.9**	**20.6**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**88.7**	**19.8**	**30.5**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.4**	**135**	**109**	**98.0**	**121**
13C8-PFOA	----	0.02	%		**105**	**108**	**103**	**107**	**105**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC302_231026	----	----	----	----
				Sampling date / time	26-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333518-047	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0207_QC302_231026	----	----	----	----
				Sampling date / time	26-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2333518-047	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.6**	----	----	----	----
13C8-PFOA	----	0.02	%		**110**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EB2333518**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Order number	: 60612563 2.1	Date Analysis Commenced	: 30-Oct-2023
C-O-C number	: ----	Issue Date	: 07-Nov-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 v4 60612563_2.1		
No. of samples received	: 48		
No. of samples analysed	: 46		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	0207_QC102_231025	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.34	3.86	11.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	10.2	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.78	1.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	0.73	3.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.26	12.8	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2333518-044	0207_QC104_231026	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	19.6	19.2	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.89	10.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.70	2.73	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.25	3.09	4.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.30	0.29	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404)									
EB2333518-042	0207_QC102_231025	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.36	5.89	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	30.6	30.5	0.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.6	14.9	1.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.84	10.4	5.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.28	0.25	12.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.7	7.4	3.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5395404) - continued									
EB2333518-044	0207_QC104_231026	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.91	0.88	3.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.20	1.12	6.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.66	3.63	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.65	0.66	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5395404)									
EB2333518-042	0207_QC102_231025	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	0207_QC104_231026	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404)									
EB2333518-042	0207_QC102_231025	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5395404) - continued									
EB2333518-042	0207_QC102_231025	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.05	2.99	2.0	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.62	0.67	7.2	0% - 50%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2333518-044	0207_QC104_231026	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5395404)									
EB2333518-042	0207_QC102_231025	EP231X: Sum of PFAS	----	0.01	µg/L	90.2	88.9	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	14.1	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	88.7	87.6	1.3	0% - 20%
EB2333518-044	0207_QC104_231026	EP231X: Sum of PFAS	----	0.01	µg/L	34.0	33.2	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	20.6	20.1	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.5	29.9	2.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5393992)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	106	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	106	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	110	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	115	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5393994)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	112	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	105	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	98.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	98.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	102	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	97.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5393992)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	106	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	105	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	102	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	101	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5393992) - continued								
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.4	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5393994)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	104	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	99.6	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	91.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	113	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5393992)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	108	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	101	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	103	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	62.6	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5393992) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5393994)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	108	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	106	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.0	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	110	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.8	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	91.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	123	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5393992)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	98.6	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	121	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	96.0	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	99.4	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5393994)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	91.8	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	98.6	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	87.9	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5393994) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	72.8	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	103	64.2	133
EP231P: PFAS Sums (QCLot: 5393992)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5393994)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5395404)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	0207_QC103_231026	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	134	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5395404) - continued							
EB2333518-043	0207_QC103_231026	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5395404)							
EB2333518-043	0207_QC103_231026	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	126	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	115	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	119	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	127	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	129	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	134	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5395404)							
EB2333518-043	0207_QC103_231026	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	136	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5395404)							
EB2333518-043	0207_QC103_231026	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	142	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	129	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2333518**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: [redacted]	Telephone	: [redacted]
Project	: QLD_0207_PFASOMP_23	Date Samples Received	: 27-Oct-2023
Site	: ----	Issue Date	: 07-Nov-2023
Sampler	: [redacted]	No. of samples received	: 48
Order number	: 60612563 2.1	No. of samples analysed	: 46

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	0207_QC103_231026	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EB2333518--043	0207_QC103_231026	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC 2	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	58	3.45	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	58	1.72	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_QC300_231024	**24-Oct-2023**	**01-Nov-2023**	21-Apr-2024	✓	**02-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW299_231024, 0207_MW300_231024, 0207_QC100_231024	**24-Oct-2023**	**02-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW167_231024, 0207_MW172_231024, 0207_MW173_231024, 0207_MW174_231024, 0207_MW178_231024, 0207_MW179_231024, 0207_MW193_231024, 0207_MW198_231024, 0207_MW203_231024, 0207_MW204_231024, 0207_MW205_231024	**24-Oct-2023**	**03-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC102_231025, 0207_QC301_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW230_231025, 0207_MW232_231025, 0207_QC101_231025	**25-Oct-2023**	**02-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW201_231025, 0207_MW202_231025, 0207_MW207_231025, 0207_MW221_231025, 0207_MW222_231025, 0207_MW223_231025, 0207_MW229_231025	**25-Oct-2023**	**03-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC103_231026, 0207_QC104_231026, 0207_QC302_231026	**26-Oct-2023**	**01-Nov-2023**	23-Apr-2024	✓	**02-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW233_231026, 0207_MW235_231026, 0207_MW236_231026, 0207_MW241_231026, 0207_MW245_231026, 0207_MW249_231026, 0207_MW252_231026, 0207_MW255_231026, 0207_MW257_231026, 0207_MW262_231026, 0207_MW272_231026, 0207_MW276_231026, 0207_MW562_231026, 0207_MW563_231026	**26-Oct-2023**	**02-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW187_231026, 0207_MW189_231026	**26-Oct-2023**	**03-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0207_QC300_231024	**24-Oct-2023**	**01-Nov-2023**	21-Apr-2024	✓	**02-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW299_231024, 0207_MW300_231024, 0207_QC100_231024	**24-Oct-2023**	**02-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW167_231024, 0207_MW172_231024, 0207_MW173_231024, 0207_MW174_231024, 0207_MW178_231024, 0207_MW179_231024, 0207_MW193_231024, 0207_MW198_231024, 0207_MW203_231024, 0207_MW204_231024, 0207_MW205_231024	**24-Oct-2023**	**03-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC102_231025, 0207_QC301_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW230_231025, 0207_MW232_231025, 0207_QC101_231025	**25-Oct-2023**	**02-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW201_231025, 0207_MW202_231025, 0207_MW207_231025, 0207_MW221_231025, 0207_MW222_231025, 0207_MW223_231025, 0207_MW229_231025	**25-Oct-2023**	**03-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC103_231026, 0207_QC104_231026, 0207_QC302_231026	**26-Oct-2023**	**01-Nov-2023**	23-Apr-2024	✓	**02-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW233_231026, 0207_MW235_231026, 0207_MW236_231026, 0207_MW241_231026, 0207_MW245_231026, 0207_MW249_231026, 0207_MW252_231026, 0207_MW255_231026, 0207_MW257_231026, 0207_MW262_231026, 0207_MW272_231026, 0207_MW276_231026, 0207_MW562_231026, 0207_MW563_231026	**26-Oct-2023**	**02-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW187_231026, 0207_MW189_231026	**26-Oct-2023**	**03-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0207_QC300_231024	**24-Oct-2023**	**01-Nov-2023**	21-Apr-2024	✓	**02-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW299_231024, 0207_MW300_231024, 0207_QC100_231024	**24-Oct-2023**	**02-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW167_231024, 0207_MW172_231024, 0207_MW173_231024, 0207_MW174_231024, 0207_MW178_231024, 0207_MW179_231024, 0207_MW193_231024, 0207_MW198_231024, 0207_MW203_231024, 0207_MW204_231024, 0207_MW205_231024	**24-Oct-2023**	**03-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC102_231025, 0207_QC301_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW230_231025, 0207_MW232_231025, 0207_QC101_231025	**25-Oct-2023**	**02-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW201_231025, 0207_MW202_231025, 0207_MW207_231025, 0207_MW221_231025, 0207_MW222_231025, 0207_MW223_231025, 0207_MW229_231025	**25-Oct-2023**	**03-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC103_231026, 0207_QC104_231026, 0207_QC302_231026	**26-Oct-2023**	**01-Nov-2023**	23-Apr-2024	✓	**02-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW233_231026, 0207_MW235_231026, 0207_MW236_231026, 0207_MW241_231026, 0207_MW245_231026, 0207_MW249_231026, 0207_MW252_231026, 0207_MW255_231026, 0207_MW257_231026, 0207_MW262_231026, 0207_MW272_231026, 0207_MW276_231026, 0207_MW562_231026, 0207_MW563_231026	**26-Oct-2023**	**02-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW187_231026, 0207_MW189_231026	**26-Oct-2023**	**03-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0207_QC300_231024	**24-Oct-2023**	**01-Nov-2023**	21-Apr-2024	✓	**02-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW299_231024, 0207_MW300_231024, 0207_QC100_231024	**24-Oct-2023**	**02-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW167_231024, 0207_MW172_231024, 0207_MW173_231024, 0207_MW174_231024, 0207_MW178_231024, 0207_MW179_231024, 0207_MW193_231024, 0207_MW198_231024, 0207_MW203_231024, 0207_MW204_231024, 0207_MW205_231024	**24-Oct-2023**	**03-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC102_231025, 0207_QC301_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW230_231025, 0207_MW232_231025, 0207_QC101_231025	**25-Oct-2023**	**02-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW201_231025, 0207_MW202_231025, 0207_MW207_231025, 0207_MW221_231025, 0207_MW222_231025, 0207_MW223_231025, 0207_MW229_231025	**25-Oct-2023**	**03-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC103_231026, 0207_QC104_231026, 0207_QC302_231026	**26-Oct-2023**	**01-Nov-2023**	23-Apr-2024	✓	**02-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW233_231026, 0207_MW235_231026, 0207_MW236_231026, 0207_MW241_231026, 0207_MW245_231026, 0207_MW249_231026, 0207_MW252_231026, 0207_MW255_231026, 0207_MW257_231026, 0207_MW262_231026, 0207_MW272_231026, 0207_MW276_231026, 0207_MW562_231026, 0207_MW563_231026	**26-Oct-2023**	**02-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW187_231026, 0207_MW189_231026	**26-Oct-2023**	**03-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0207_QC300_231024	**24-Oct-2023**	**01-Nov-2023**	21-Apr-2024	✓	**02-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW299_231024, 0207_MW300_231024, 0207_QC100_231024	**24-Oct-2023**	**02-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW167_231024, 0207_MW172_231024, 0207_MW173_231024, 0207_MW174_231024, 0207_MW178_231024, 0207_MW179_231024, 0207_MW193_231024, 0207_MW198_231024, 0207_MW203_231024, 0207_MW204_231024, 0207_MW205_231024	**24-Oct-2023**	**03-Nov-2023**	21-Apr-2024	✓	**03-Nov-2023**	21-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC102_231025, 0207_QC301_231025	**25-Oct-2023**	**01-Nov-2023**	22-Apr-2024	✓	**02-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW230_231025, 0207_MW232_231025, 0207_QC101_231025	**25-Oct-2023**	**02-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW201_231025, 0207_MW202_231025, 0207_MW207_231025, 0207_MW221_231025, 0207_MW222_231025, 0207_MW223_231025, 0207_MW229_231025	**25-Oct-2023**	**03-Nov-2023**	22-Apr-2024	✓	**03-Nov-2023**	22-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_QC103_231026, 0207_QC104_231026, 0207_QC302_231026	**26-Oct-2023**	**01-Nov-2023**	23-Apr-2024	✓	**02-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW233_231026, 0207_MW235_231026, 0207_MW236_231026, 0207_MW241_231026, 0207_MW245_231026, 0207_MW249_231026, 0207_MW252_231026, 0207_MW255_231026, 0207_MW257_231026, 0207_MW262_231026, 0207_MW272_231026, 0207_MW276_231026, 0207_MW562_231026, 0207_MW563_231026	**26-Oct-2023**	**02-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0207_MW187_231026, 0207_MW189_231026	**26-Oct-2023**	**03-Nov-2023**	23-Apr-2024	✓	**03-Nov-2023**	23-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	58	**3.45**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	**5.17**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	**5.17**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	58	**1.72**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer: AECOM AUSTRALIA PTY LTD

Address: [redacted]

Email: [redacted]

Telephone: [redacted]

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: Client Services

Address: [redacted]

Email: [redacted]

Telephone: [redacted]

SAMPLE DETAILS

NMI Job Name: AECO06/231031

Total No. of Samples: 5

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/022742	7-NOV-2023	0207_QC200_231024	WATER 24.10.23
N23/022743	7-NOV-2023	0207_QC201_231025	WATER 25.10.23

[redacted]

N23/022744	7-NOV-2023	0207_QC202_231025	WATER 25.10.23
N23/022745	7-NOV-2023	0207_QC203_231026	WATER 26.10.23
N23/022746	7-NOV-2023	0207_QC204_231026	WATER 26.10.23

SAMPLE RECEIVED CONDITION

Date samples received:	31-OCT-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	
Client purchase order number:	60612563_2_1
Temperature of samples:	Chilled
Comments:	
Mode of Delivery:	

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

Alterations to Client requirements requested after commencement of testing may incur charges.

REPORT OF ANALYSIS

Report No. RN1410219

Client	[redacted]	**Job No.**	: AECO06/231031
		Quote No.	: QT-02232
		Order No.	: 60612563_2_1
		Date Received	: 31-OCT-2023
Attention		**Sampled By**	: CLIENT
Project Name			
Your Client S		**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/022742	0207_QC200_231024	WATER 24.10.23
N23/022743	0207_QC201_231025	WATER 25.10.23
N23/022744	0207_QC202_231025	WATER 25.10.23
N23/022745	0207_QC203_231026	WATER 26.10.23

Lab Reg No.		N23/022742	N23/022743	N23/022744	N23/022745	
Date Sampled		24-OCT-2023	25-OCT-2023	25-OCT-2023	26-OCT-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.43	2.5	4.7	0.37	NR70
PFPeA (2706-90-3)	ug/L	1.4	3.8	22	0.58	NR70
PFHxA (307-24-4)	ug/L	1.3	17	10	0.92	NR70
PFHpA (375-85-9)	ug/L	0.61	2.7	8.0	0.27	NR70
PFOA (335-67-1)	ug/L	0.51	5.7	3.2	0.35	NR70
PFNA (375-95-1)	ug/L	0.11	<0.01	0.22	0.024	NR70
PFDA (335-76-2)	ug/L	0.010	<0.01	0.063	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.30	11	0.55	0.61	NR70
PFHxS (355-46-4)	ug/L	1.8	98	2.6	2.5	NR70
PFHpS (375-92-8)	ug/L	0.094	3.0	0.18	0.15	NR70
PFOS (1763-23-1)	ug/L	2.1	2.3	7.6	8.7	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.39	12	0.61	0.73	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	0.015	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

[redacted]

REPORT OF ANALYSIS

Lab Reg No.		N23/022742	N23/022743	N23/022744	N23/022745	
Date Sampled		24-OCT-2023	25-OCT-2023	25-OCT-2023	26-OCT-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.036	0.56	2.1	0.067	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	0.48	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	112	117	111	106	NR70
PFPeA (Surrogate Recovery)	%	111	122	72	112	NR70
PFHxA (Surrogate Recovery)	%	123	89	87	112	NR70
PFHpA (Surrogate Recovery)	%	120	101	99	117	NR70
PFOA (Surrogate Recovery)	%	127	117	114	120	NR70
PFNA (Surrogate Recovery)	%	110	111	90	91	NR70
PFDA (Surrogate Recovery)	%	118	120	109	100	NR70
PFUdA (Surrogate Recovery)	%	113	119	101	98	NR70
PFDoA (Surrogate Recovery)	%	107	113	103	98	NR70
PFTeDA (Surrogate Recovery)	%	110	108	93	87	NR70
PFHxDA (Surrogate Recovery)	%	147	173	142	127	NR70
FOUEA (Surrogate Recovery)	%	100	117	97	76	NR70
PFBS (Surrogate Recovery)	%	136	92	123	121	NR70
PFHxS (Surrogate Recovery)	%	125	60	103	111	NR70
PFOS (Surrogate Recovery)	%	112	115	111	107	NR70
PFOSA (Surrogate Recovery)	%	91	92	74	70	NR70
N-MeFOSA (Surrogate Recovery)	%	80	92	74	53	NR70
N-EtFOSA (Surrogate Recovery)	%	79	82	72	51	NR70
N-MeFOSAA (Surrogate Recovery)	%	100	91	94	70	NR70
N-EtFOSAA (Surrogate Recovery)	%	97	106	97	93	NR70
N-MeFOSE (Surrogate Recovery)	%	93	113	94	63	NR70
N-EtFOSE (Surrogate Recovery)	%	91	106	89	56	NR70
4:2 FTS (Surrogate Recovery)	%	139	130	140	135	NR70
6:2 FTS (Surrogate Recovery)	%	103	118	174	99	NR70
8:2 FTS (Surrogate Recovery)	%	104	97	110	85	NR70
8:2 diPAP (Surrogate Recovery)	%	123	123	109	124	NR70
Dates						
Date extracted		2-NOV-2023	2-NOV-2023	2-NOV-2023	2-NOV-2023	
Date analysed		3-NOV-2023	3-NOV-2023	3-NOV-2023	3-NOV-2023	

N23/022742
to
N23/022746

[redacted]

REPORT OF ANALYSIS

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.
High PFAS surrogate recoveries accepted - results corrected for recovery.

REPORT OF ANALYSIS

Report No. RN1410219

Client	[redacted]	**Job No.**	: AECO06/231031
		Quote No.	: QT-02232
		Order No.	: 60612563_2_1
		Date Received	: 31-OCT-2023
Attention		**Sampled By**	: CLIENT
Project Nam			
Your Client		**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/022746	0207_QC204_231026	WATER 26.10.23

Lab Reg No.		N23/022746				
Date Sampled		26-OCT-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.70				NR70
PFPeA (2706-90-3)	ug/L	0.95				NR70
PFHxA (307-24-4)	ug/L	2.4				NR70
PFHpA (375-85-9)	ug/L	0.58				NR70
PFOA (335-67-1)	ug/L	0.68				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	1.9				NR70
PFHxS (355-46-4)	ug/L	13				NR70
PFHpS (375-92-8)	ug/L	0.18				NR70
PFOS (1763-23-1)	ug/L	0.64				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	1.6				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	0.050				NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/022746				
Date Sampled		26-OCT-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	119				NR70
PFPeA (Surrogate Recovery)	%	122				NR70
PFHxA (Surrogate Recovery)	%	108				NR70
PFHpA (Surrogate Recovery)	%	109				NR70
PFOA (Surrogate Recovery)	%	116				NR70
PFNA (Surrogate Recovery)	%	114				NR70
PFDA (Surrogate Recovery)	%	120				NR70
PFUdA (Surrogate Recovery)	%	119				NR70
PFDoA (Surrogate Recovery)	%	120				NR70
PFTeDA (Surrogate Recovery)	%	109				NR70
PFHxDA (Surrogate Recovery)	%	146				NR70
FOUEA (Surrogate Recovery)	%	88				NR70
PFBS (Surrogate Recovery)	%	107				NR70
PFHxS (Surrogate Recovery)	%	102				NR70
PFOS (Surrogate Recovery)	%	122				NR70
PFOSA (Surrogate Recovery)	%	98				NR70
N-MeFOSA (Surrogate Recovery)	%	74				NR70
N-EtFOSA (Surrogate Recovery)	%	75				NR70
N-MeFOSAA (Surrogate Recovery)	%	100				NR70
N-EtFOSAA (Surrogate Recovery)	%	114				NR70
N-MeFOSE (Surrogate Recovery)	%	96				NR70
N-EtFOSE (Surrogate Recovery)	%	94				NR70
4:2 FTS (Surrogate Recovery)	%	116				NR70
6:2 FTS (Surrogate Recovery)	%	91				NR70
8:2 FTS (Surrogate Recovery)	%	98				NR70
8:2 diPAP (Surrogate Recovery)	%	121				NR70
Dates						
Date extracted		2-NOV-2023				
Date analysed		3-NOV-2023				

[redacted]

07-NOV-2023

[redacted]

REPORT OF ANALYSIS

This Report supersedes reports: *RN1410217*

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
The testing was undertaken at: [redacted]

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/231031 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	141	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	108	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	107	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	118	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	105	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	118	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	102	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	95	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	103	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	102	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	98	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	111	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	113	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	119	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	108	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	96	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	97	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	100	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	104	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	101	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	106	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	118	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	95	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	111	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	100	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	97	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed:

Date:

Appendix F

Equipment Calibration Certificates

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Aimet
Make and Model:	YSI Pro Plus
Serial Number:	18J104529

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	25.10.23				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~ppm~~ mg/L	ORP ~~ppm~~
Calibration Standard Concentration:	4.00	7.00	2602	0.0	235.6
Calibration Reading:			2734		285.4
Calibration Temperature:			21.9		21.5

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~ppm~~ mg/L	ORP ~~ppm~~
Calibration Standard Concentration:	4.00	7.00	2602	0.0	235.6
Bump Test Reading:	4.03	7.05	2590	0.0	236.7
Bump Test Temperature:	22.1	22.0	21.9	21.5	21.5

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each ind[redacted] calibrated daily and bump tested as required by fieldwork staff.

[redacted] 25.10.23

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	
Make and Model:	
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	26.10.23				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~ppm~~ mg/L	ORP ppm
Calibration Standard Concentration:	4.00	7.00	1602	0.00	235.6
Bump Test Reading:	4.02	7.03	2581	0.00	234.8
Bump Test Temperature:	22.1	22.0	22.1	22.1	22.2

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted] — Fieldwork Staff Signature

26.10.23 — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612563
Project Location:	AACO	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Aicmet
Make and Model:	YSI Pro Plus
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~ppm~~ mg/L	ORP ~~ppm~~
Calibration Standard Concentration:	4.00	7.00	2496	0.00	241.3
Calibration Reading:	4.02	7.05	2567	0.00	220.3
Calibration Temperature:	18.8	19.0	18.9	18.9	19.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~ppm~~ mg/L	ORP ~~ppm~~
Calibration Standard Concentration:	4.00	7.00	2444	0.00	241.3
Bump Test Reading:	4.03	7.03	2407	0.00	242.5
Bump Test Temperature:	19.5	19.4	19.0	19.0	19.1

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted] — 27.10.23 (Date)

Distribution: Project Central File

19/10/23

Oil / Water Interface Meter

Instrument Interface Meter (100M)
Serial No. 348899

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: [redacted]

Calibration date: 19-Oct-23

Next calibration due: 18/12/2023

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 18J104329

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		372012	pH 7.01
2. pH 4.00		pH 4.00		380832	pH 4.01
3. ORP		232.7mV		370499/367457	232.0mV
4. EC		2760uS		377099	2665uS
5. D.O		100%			95.20%
6. Temp		23.1oC		MultiTherm 09000528	23.2oC

Calibrated by: [redacted]

Calibration date: 17/10/2023

Next calibration due: 14-Apr-24