

Ongoing Monitoring Report (June 2023 - March 2024)

RAAF Base Townsville

26-Jul-2024

PFAS Ongoing Monitoring Program - RAAF Base Townsville

Doc No. 60612487_RP118_20240726_0

Ongoing Monitoring Report (June 2023 - March 2024)

RAAF Base Townsville

Client: Department of Defence

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd

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

T +61 1800 868 654 www.aecom.com

ABN 20 093 846 925

26-Jul-2024

Job No.: 60612487

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

Quality Information

Document Ongoing Monitoring Report (June 2023 - March 2024)
 Ref 60612487_RP118_20240726_0
 Date 26-Jul-2024
 Originator [REDACTED]
 Checker/s [REDACTED]
 Verifier/s [REDACTED]

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
A	21-May-2024	Draft for Review	[REDACTED]	
B	25-Jun-2024	Second draft for Review	[REDACTED]	
C	01-Jul-2024	Third draft for Review	[REDACTED]	
0	26-Jul-2024	Final Issue	[REDACTED]	[REDACTED]

Table of Contents

Abbreviations	i
Units	ii
Executive Summary	iii
1.0 Introduction	1
1.1 Purpose and objectives	1
1.2 Scope	2
2.0 Base setting	3
2.1 Base description	3
2.2 Management Area	5
2.2.1 Sub-management areas (Source Areas)	5
2.2.2 Other on-base groundwater monitoring areas (outside SMAs)	6
2.3 Monitoring Area	6
2.3.1 Additional groundwater monitoring areas	6
2.3.2 Surface water catchments	7
3.0 Sampling and Analytical Methodology	9
3.1 Sampling Methodology	9
3.2 Deviations from SAQP requirements	9
3.2.1 Groundwater	10
3.2.2 Surface water	11
3.2.3 Sediment	12
3.3 Changes to the Monitoring Network	12
4.0 Quality Assurance and Quality Control	13
5.0 Screening criteria	14
6.0 Contextual and ancillary information	15
6.1 Remediation projects	15
6.2 Mass-flux Investigations	15
6.3 Infrastructure projects on-base	15
6.4 Weather events	15
7.0 Monitoring data summary	18
7.1 Groundwater	18
7.1.1 Groundwater elevation and flow direction	18
7.1.2 Physicochemical Parameters	19
7.1.3 Groundwater analytical results	20
7.2 Surface water	28
7.2.1 Physicochemical Parameters	28
7.2.2 Surface Water Analytical Results	29
7.3 Sediment	35
7.3.1 Sediment analytical results	35
8.0 Discussion/interpretive analysis	38
8.1 Hydrogeology	38
8.2 Groundwater Results	38
8.2.1 Sub-Management Area One	38
8.2.2 Sub-Management Area Two	39
8.2.3 Sub-Management Area Three	39
8.2.4 Other On-Base Wells	39
8.2.5 Off-Base Wells	40
8.2.6 Summary	40
8.3 Rainfall Event Surface Water Results – January 2024	40
8.4 Biannual Surface Water Results – October 2023 and March 2024	41
8.4.1 Bohle River/Louisa Creek/Town Common Catchment	41
8.4.2 Mundy Creek Catchment	41
8.4.3 Three Mile Creek Catchment	41
8.4.4 Summary	41
8.5 Sediment	42
8.5.1 Bohle River/Louisa Creek/Town Common catchment	42

	8.5.2	Mundy Creek catchment	42
	8.5.3	Three Mile Creek catchment	42
	8.5.4	Summary	42
9.0		Conceptual site model	43
10.0		Discussion	45
	10.1	Risk profile	45
	10.2	Triggers for OMP Review	45
11.0		Conclusions	46
12.0		References	47
Appendix A			
		Figures	A
Appendix B			
		Data Tables	B
Appendix C			
		Graphs and Plots	C
Appendix D			
		Sampling Analysis and Quality Plan	D
Appendix E			
		Factual Reports (June 2023 - March 2024)	E

Tables (in text)

Table 1	Site identification and setting summary	3
Table 2	Sub-management areas on-base	5
Table 3	Remaining on-base groundwater monitoring locations	6
Table 4	Off-base groundwater monitoring locations	7
Table 5	Surface water catchments	7
Table 6	Summary of monitoring (June 2023 to March 2024)	9
Table 7	Deviations from SAQP for groundwater	10
Table 8	Deviations from SAQP for surface water	11
Table 9	Deviations from the SAQP for sediment	12
Table 10	Summary of adopted screening criteria	14
Table 11	Summary of subset groundwater elevations for the monitoring period	18
Table 12	Groundwater gradients for the monitoring period	19
Table 13	Summary – groundwater physicochemical parameters	19
Table 14	Summary of groundwater physical properties observations	20
Table 15	Summary of PFOS, PFOA and PFOS+PFHxS concentrations in groundwater	21
Table 16	Summary of first-time detections, new exceedance of guidelines, and new historical minimums and maximums for PFOA, PFOS and PFOS+PFHxS in groundwater	23
Table 17	Groundwater temporal trend graphs	26
Table 18	Summary – surface water physicochemical parameters	28
Table 19	Summary of surface water physical properties observations	29
Table 20	Summary of PFOA, PFOS and PFOS+PFHxS concentrations in surface water	30
Table 21	Summary of new historical minimums and maximums for PFOS, PFOA and PFOS+PFHxS in surface water	32
Table 22	Surface water temporal trend graphs by catchment	34
Table 23	Summary of PFOS, PFOA and PFOS+PFHxS concentrations in sediment	35
Table 24	Summary of first-time detections of PFOS, PFOA and PFOS+PFHxS in sediment	36
Table 25	Sediment temporal trend graphs by catchment	37
Table 26	Summary of conceptual site model (Department of Defence, 2020)	43

List of Figures (in Appendix A)

Figure 1	RAAF Base Townsville Location Plan
Figure 2	Groundwater Monitoring Locations
Figure 3	Surface Water and Sediment Monitoring Locations
Figure 4	Inferred Groundwater Contours – October 2023
Figure 5	Inferred Groundwater Contours – March 2024
Figure 6a	Groundwater Concentration of PFOS+PFHxS – October 2023
Figure 6b	Groundwater Concentration of PFOA – October 2023
Figure 7a	Groundwater Concentration of PFOS+PFHxS – March 2024
Figure 7b	Groundwater Concentration of PFOA – March 2024
Figure 8a	Surface Water Concentration of PFOS+PFHxS – October 2023
Figure 8b	Surface Water Concentration of PFOA – October 2023
Figure 9a	Surface Water Concentration of PFOS+PFHxS – January 2024
Figure 9b	Surface Water Concentration of PFOA
Figure 10a	Surface Water Concentration of PFOS+PFHxS – March 2024
Figure 10b	Surface Water Concentration of PFOA – March 2024
Figure 11a	Sediment Concentration of PFOS+PFHxS – October 2023
Figure 11b	Sediment Concentration of PFOA – October 2023
Figure 12a	Sediment Concentration of PFOS+PFHxS – March 2024
Figure 12b	Sediment Concentration of PFOA – March 2024

List of Tables (in Appendix B)

Table T1	Groundwater Gauging
Table T2	Groundwater Field Observations
Table T3	Current And Historical Groundwater PFAS Analytical Results
Table T4	Surface Water Field Observations
Table T5	Historical Surface Water PFAS Analytical Results
Table T6	Sediment Field Observations
Table T7	Historical Sediment PFAS Analytical Results

List of Graphs and Plots (Appendix C)

Graph 1a	PFOA Concentrations in Groundwater On-Base - Sub-Management Area 1
Graph 1b	PFOS+PFHxS Concentrations in Groundwater On-Base - Sub-Management Area 1
Graph 1c	Daily Rainfall
Graph 2a	PFOA Concentrations in Groundwater On-Base - Sub-Management Area 2
Graph 2b	PFOS+PFHxS Concentrations in Groundwater On-Base - Sub-Management Area 2
Graph 2c	Daily Rainfall
Graph 3a	PFOA Concentrations in Groundwater On-Base - Sub-Management Area 3
Graph 3b	PFOS+PFHxS Concentrations in Groundwater On-Base - Sub-Management Area 3
Graph 3c	Daily Rainfall
Graph 4a	PFOA Concentrations in Groundwater On-Base - Northern Section and Northwest of Runway 07/25
Graph 4b	PFOS+PFHxS Concentrations in Groundwater On-Base - Northern Section and Northwest of Runway 07/25
Graph 4c	Daily Rainfall
Graph 5a	PFOA Concentrations in Groundwater On-Base - East and Southeast of Sub-Management Area 1
Graph 5b	PFOS+PFHxS Concentrations in Groundwater On-Base - East and Southeast of Sub-Management Area 1
Graph 5c	Daily Rainfall
Graph 6a	PFOA Concentrations in Groundwater On-Base - South of Ingham Rd
Graph 6b	PFOS+PFHxS Concentrations in Groundwater On-Base - South of Ingham Rd
Graph 6c	Daily Rainfall

Graph 7a	PFOA Concentrations in Groundwater On-Base - Balance of Base Area
Graph 7b	PFOS+PFHxS Concentrations in Groundwater On-Base - Balance of Base Area
Graph 7c	Daily Rainfall
Graph 8a	PFOA Concentrations in Groundwater Off-Base - Town Common Conservation Park
Graph 8b	PFOS+PFHxS Concentrations in Groundwater Off-Base - Town Common Conservation Park
Graph 8c	Daily Rainfall
Graph 9a	PFOA Concentrations in Groundwater Off-Base - Bohle River and Bohle Industrial Estate
Graph 9b	PFOS+PFHxS Concentrations in Groundwater Off-Base - Bohle River and Bohle Industrial Estate
Graph 9c	Daily Rainfall
Graph 10a	PFOA Concentrations in Groundwater Off-Base - Pallarenda
Graph 10b	PFOS+PFHxS Concentrations in Groundwater Off-Base - Pallarenda
Graph 10c	Daily Rainfall
Graph 11a	PFOA Concentrations in Groundwater Off-Base - Rowes Bay and Belgian Gardens
Graph 11b	PFOS+PFHxS Concentrations in Groundwater Off-Base - Rowes Bay and Belgian Gardens
Graph 11c	Daily Rainfall
Graph 12a	PFOA Concentrations in Groundwater Off-Base - Garbutt
Graph 12b	PFOS+PFHxS Concentrations in Groundwater Off-Base - Garbutt
Graph 12c	Daily Rainfall
Graph 13a	PFOA Concentrations in Surface Water On-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 13b	PFOS+PFHxS Concentrations in Surface Water On-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 13c	Daily Rainfall
Graph 14a	PFOA Concentrations in Surface Water Off-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 14b	PFOS+PFHxS Concentrations in Surface Water Off-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 14c	Daily Rainfall
Graph 15a	PFOA Concentrations in Surface Water On-Base - Mundy Creek Catchment
Graph 15b	PFOS+PFHxS Concentrations in Surface Water On-Base - Mundy Creek Catchment
Graph 15c	Daily Rainfall
Graph 16a	PFOA Concentrations in Surface Water Off-Base - Mundy Creek Catchment
Graph 16b	PFOS+PFHxS Concentrations in Surface Water Off-Base - Mundy Creek Catchment
Graph 16c	Daily Rainfall
Graph 17a	PFOA Concentrations in Surface Water On-Base and Off-Base - Three Mile Creek
Graph 17b	PFOS+PFHxS Concentrations in Surface Water On-Base and Off-Base - Three Mile Creek
Graph 17c	Daily Rainfall
Graph 18a	PFOA Concentrations in Sediment On-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 18b	PFOS+PFHxS Concentrations in Sediment On-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 18c	Daily Rainfall
Graph 19a	PFOA Concentrations in Sediment Off-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 19b	PFOS+PFHxS Concentrations in Sediment Off-Base - Bohle River / Lousia Creek / Townsville Town Common Catchment
Graph 19c	Daily Rainfall
Graph 20a	PFOA Concentrations in Sediment On-Base - Mundy Creek Catchment
Graph 20b	PFOS+PFHxS Concentrations in Sediment On-Base - Mundy Creek Catchment
Graph 20c	Daily Rainfall

Graph 21a	PFOA Concentrations in Sediment Off-Base - Mundy Creek Catchment
Graph 21b	PFOS+PFHxS Concentrations in Sediment Off-Base - Mundy Creek Catchment
Graph 21c	Daily Rainfall
Graph 22a	PFOA Concentrations in Sediment On-Base and Off-Base - Three Mile Creek
Graph 22b	PFOS+PFHxS Concentrations in Sediment On-Base and Off-Base - Three Mile Creek
Graph 22c	Daily Rainfall

Abbreviations

Abbreviation	Term
5AVN	5 th Aviation Regiment
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous Film Forming Foam
AHD	Australian Height Datum
BOM	Bureau of Meteorology
CSM	Conceptual Site Model
Defence	Department of Defence
DO	Dissolved Oxygen
DSI	Detailed Site Investigation
EC	Electrical Conductivity
EMOS	Estate Maintenance and Operation Support
EPBC	Environment Protection and Biodiversity Conservation
ERA	Ecological Risk Assessment
GWE	Groundwater Elevation
HEPA	Heads of Environment Protection Authority
HHRA	Human Health Risk Assessment
LOR	Limit of Reporting
Max	Maximum
Min	Minimum
MW	Monitoring Well
N/A	Not applicable
NEMP	National Environment Management Plan
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
OMP	Ongoing Monitoring Plan
OMIR	Ongoing Monitoring Interpretive Report
OMR	Ongoing Monitoring Report
ORP	Oxidation Reduction Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
RAAF	Royal Australian Air Force
SAQP	Sampling and Analysis Quality Plan
SD	Sediment

Abbreviation	Term
SMA1	Sub Management Area One
SMA2	Sub Management Area Two
SMA3	Sub Management Area Three
SW	Surface water
SWL	Standing water level
TM	Trademark

Units

Abbreviation	Term	Abbreviation	Term
kg	Kilogram	mbgl	Metres below ground level
km	Kilometre	mg	Milligram
L	Litres	mV	Millvolt
m	Metre	SWL	Standing Water Level
m AHD	Metres Australian Height Datum	µg	Microgram

Executive Summary

Introduction

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

This Ongoing Monitoring Report (OMR) summarises the results of the scheduled sampling events which were completed in October 2023 and March 2024, and rain event sampling completed in January 2024.

This OMR has been prepared in general accordance with the Defence *Ongoing Monitoring Program Reporting* (Revision 0) issued in February 2024 (Department of Defence, 2024) and provides interpretation of changes that have occurred within the Monitoring and Management Areas associated with the base.

Objective

The objective of the monitoring program set out in the OMP is to provide information on changes in the location and concentrations of PFAS on-base and off-base within the management and monitoring areas outlined in the PMAP (Department of Defence, 2020) and as depicted in **Figure 1, Appendix A**. Locations which are monitored off-base are located within the Monitoring Area, depicted in **Figure 1, Appendix A** as a pink outline.

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

Monitoring program

AECOM completed periodic monitoring of groundwater, surface water and sediment in accordance with the sampling and analysis quality plan (SAQP) (AECOM, 2024a) from October 2023 to March 2024 (hereafter referred to as the monitoring period). The monitoring targeted PFAS and included selected locations on-base and in surrounding off-base areas. The limits of the base form the RAAF Townsville Management Area, as shown in **Figure 1, Appendix A** including Sub-Management Areas related to PFAS sources. The three Sub-Management Areas are:

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

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

Interpretive assessment

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

Overall, the groundwater monitoring results do not suggest a change in the understanding of contamination or risk at the monitored locations. The relative stability of the concentrations during the monitoring period within each of the sub-management areas suggests the plume geometry, particularly the lateral extent is unchanged. The PFAS plume in groundwater across the base and extending off-base has also remained consistent with historical extents and mostly within the same order of magnitude as historical results with some locations indicating a decreasing trend. A potentially increasing trend in PFAS concentrations at off-base monitoring well MW218 was identified with fluctuations in concentrations since October 2021 but are within the same order of magnitude as historical PFAS concentrations in nearby well MW221.

All except one groundwater well within Sub-Management Area One have been destroyed due to remediation activities and present gaps in the data set. Concentrations at MW118 were stable and comparable to previous monitoring data at this location.

Sub-Management Area Two has historically reported the highest concentrations across the base. The new maximum results reported at MW021 and fluctuating concentrations at other wells within Sub-Management Area Two indicate that further monitoring and investigation combined with remedial actions are required to address the PFAS sources in this area. It is also acknowledged that this Sub-Management Area is identified for remediation works during 2024.

Concentrations of PFAS in groundwater at Sub-Management Area Three are generally stable at all locations, except for MW125 which increased back to similar concentrations recorded in 2021 after previously indicating a downward trend. Seasonal fluctuations in PFAS, Perfluorooctane sulfonate (PFOS) and sum of PFOS + Perfluorohexane sulfonate (PFHxS) concentrations are not consistent across all wells within this Sub-Management Area however, where seasonality is observed, the same trends are present, at the same locations, each sampling round, which potentially indicates that residual PFAS are present within soils located above the groundwater table which are mobilised through rainfall infiltration.

Concentrations of PFAS in surface water and sediment during the monitoring period have fluctuated with the seasons and have remained consistent with historical data, though some observations of increasing concentrations have been noted in surface water and sediment, particularly within the Bohle River/Louisa Creek/Town Common Catchments where surface water concentrations have historically exceeded adopted ecological surface water guidelines.

Conceptual site model (CSM) and risk profile

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

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

- Groundwater PFAS concentrations are relatively stable and consistent with historical results.
- The overall PFAS plume extent has remained consistent with historical extents.
- Off-base well MW266 had a new exceedance of the adopted ecological guideline in March 2024. The concentrations are similar to nearby well MW218. The risk assessment previously identified exceedances of the ecological criteria in off-base locations and therefore the risk profile remains the same.
- PFAS concentrations in surface water and sediment samples were mostly consistent with historical results with some increasing concentrations requiring continued seasonal monitoring to identify trends.

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

What is an 'order of magnitude'?

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

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

Conclusions

The monitoring conducted over the period covered within this report is considered to have met the objectives of the SAQP (AECOM, 2024a) and the overall OMP as outlined in the PMAP (Department of Defence, 2020). Although some wells within Sub-Management Area One have been destroyed due to recent remediation works, these wells are not recommended for replacing from an OMP perspective as there are other downgradient wells in this area to assist with monitoring the extent and changes to PFAS concentrations and the monitoring network is considered generally appropriate and sufficient to meet the OMP objectives.

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

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

1.0 Introduction

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

The monitoring targeted PFAS in groundwater, surface water and sediment at selected locations on-base and in surrounding off-base areas, including the Management Area as outlined in the PMAP (Department of Defence, 2020) and as depicted in **Figure 1, Appendix A**. Locations which are monitored off-base are located within the Monitoring Area, depicted in **Figure 1, Appendix A** as a pink outline.

To meet the objectives of the OMP, the monitoring was undertaken in accordance with the *Sampling and Analysis Quality Plan* (SAQP) (AECOM, 2024a). The SAQP was reviewed and updated, as required, prior to each monitoring event and the most recent version is referenced in this Ongoing Monitoring Report (OMR).

This OMR has been prepared in general accordance with the *Defence Ongoing Monitoring Program Reporting* (Revision 0) issued in February 2024 (Department of Defence, 2024). The report summarises the results of the monitoring completed in the monitoring period from June 2023 to March 2024 (hereafter referred to as "the monitoring period").

1.1 Purpose and objectives

The objective of the monitoring program set out in the OMP is to continue to assess 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 within the Management Area.

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

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

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 (Department of Defence, 2020), the Human Health Risk Assessment (HHRA) (WSP, 2018a) or Ecological Risk Assessment (ERA) (WSP, 2019a) documentation, as required.

The objective of this report is to assess and interpret the PFAS data to identify and evaluate:

- spatial and temporal (including seasonal) variability of PFAS in the environment
- changes to sources, transport pathways and/or receptors (the Conceptual Site Model [CSM])
- whether risks to human and ecological receptors require review
- the influence that risk management activities (e.g., remediation), as outlined in the PMAP, have had on PFAS in the environment
- whether the identified changes trigger an action and/or review.

The OMR presents the current CSM for the base and Management/Monitoring Area.

1.2 Scope

The scope of works for this Ongoing Monitoring Report is to assess changes to the nature and extent of select PFAS over the monitoring period and evaluate if these changes have implications for the understanding of the CSM and the risk profile with respect to PFAS impacts within the Management Area.

This included a review of the 2023 interpretive report (AECOM, 2023a) and an evaluation of data reported in the following factual reports (included in **Appendix E**), historical data (presented in **Appendix B**), and meteorological data:

- *Dry Season Sampling Event Factual Report, October 2023* (AECOM, 2024b)
- *Rainfall Event Sampling Factual Report, January 2024* (AECOM, 2024c)
- *Wet Season Sampling Event Factual Report, March 2024* (AECOM, 2024d)
- *RAAF Base Townsville Detailed Site Investigation – PFAS* (WSP, 2018b)
- Data for river levels within the Monitoring Area and meteorological data (see **Section 6.0**).

To complete this scope of work, AECOM completed biannual groundwater, surface water and sediment monitoring in October 2023 and March 2024 in accordance with the SAQP (AECOM, 2024a) applicable at the time of sampling. Rainfall event surface water sampling was conducted in January 2024.

2.0 Base setting

2.1 Base description

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

Table 1 Site identification and setting summary

Element	Description
Base ID	RAAF Base Townsville, 0874
Location	The base is in Garbutt, a suburb of Townsville, Queensland. Entry to the base is off Ingham Road, Garbutt, approximately five kilometres (km) from Townsville City, as shown in Figure 1 in Appendix A .
Regional climate (Refer to Section 6.4 for further information)	The regional climate of Townsville is classified as tropical; however, rainfall is typically lower than other locations on the coast of North Queensland. The wet season, from approximately October to April is associated with hot and humid conditions with periods of heavy rain. The dry season is associated with dry, warm days and cool nights from approximately May to September. The OMP sampling events have been designed to target the end of the wet and dry seasons.
Topography, geology, and hydrogeology	<p>The base and surrounds are generally flat and low lying and are associated with the Bohle River and Townsville Town Common Conservation Park wetlands systems, which are subject to flooding and tidal inundation. The base has an elevation of between 2 and 5 metres Australian Height Datum (m AHD). The elevation decreases towards to north and northwest, reaching sea level in the Townsville Town Common Conservation Park and at Pallarenda and Rowes Bay beaches.</p> <p>The general underlying geology is Quaternary-aged alluvium comprising clay, silt, sand, and gravel. The surface geology is presented in the Detailed Site Investigation (DSI) Report (WSP, 2018b).</p> <p>The geology is varied across the Monitoring Area; however, in general it is described as Pleistocene, quartzose, fluvial sands and gravels deposited by the Ross/Bohle River systems, overlain by shallow marine and estuarine clays, which in turn are overlain by coastal plain sediment comprising silts, clays, and minor sands. The underlying basement of Townsville is described as Julago Volcanic, comprising rhyolite to andesitic lava tuff, volcanic breccia, agglomerate with some conglomerate, sandstone, siltstone, shale, and coal seams.</p> <p>There are three rocky outcrops in the region: Many Peaks Range to the north, Mount Louisa to the southwest and Castle Hill to the east.</p> <p>Three aquifers have been identified at the base (WSP, 2018b), summarised as:</p> <ol style="list-style-type: none"> 1. A shallow unconfined sand aquifer hosted in the coastal sand dunes of Cleveland Bay, Rowes Bay and Pallarenda, with a maximum depth of 6.5 metres below ground level (mbgl); overlying 2. A shallow, semi-confined aquifer comprised of interbedded clays, silts and sands forming a connected aquifer across the base, with depths between 8 mbgl (on-base) and 11 mbgl (within Garbutt), overlying 3. A deeper, semi-confined aquifer within sands and gravels associated with paleo-channels at depths between 15 and 40 mbgl. <p>Inferred groundwater flow directions derived during the DSI (WSP, 2018b) and the Seasonal Monitoring Reports (WSP, 2019b; WSP, 2019c) indicated groundwater flows in a north to northeast direction across the Monitoring Area towards the Townsville Town Common Conservation Park and Rowes Bay. A piezometric high point extends from Garbutt across the southeast corner of the base to north area of the base, potentially due to a higher rate of surface water infiltration in this area. Groundwater</p>

Element	Description
	<p>flow is partially radial around this area towards the west, northwest, northeast and east. This was confirmed in the previous Ongoing Monitoring Interpretive Report (OMIR) (AECOM, 2023a).</p>
Surface Water and drainage	<p>The base has three main surface water catchments: the Bohle River drainage sub-basin including Bohle River/Louisa Creek/Town Common catchment, Three Mile Creek and Mundy Creek (also referred to as Captain's Creek). The monitoring network targets these catchments, both on-base and off-base.</p> <p>The three main drainage channels which flow into the base are Louisa Creek, Peewee Creek and Mount St John Drain, all of which have catchments within the urbanised suburbs to the south and east. Peewee Creek is a small watercourse that flows into Louisa Creek. Louisa Creek drains to the Townsville Town Common Conservation Park to the north of the base. Drainage to the west enters the base through the Mount St John Drain, which is separated from Louisa Creek by an elevated ridge line. The primary flow path of the drain is north, away from the base.</p> <p>On-base, a network of drains primarily direct surface water towards the northwest towards the Louisa Creek floodplain, Townsville Town Common Conservation Park and the Bohle Estuary. Surface water from the southeast corner of the base is directed to the east and then north into Mundy Creek catchment and ultimately Rowes Bay. The ordnance loading aprons and Runway 01/19, drain towards the northern boundary into the palustrine wetlands located adjacent to Rowes Bay Golf Club and ultimately into Three Mile Creek. The area to the north of Runway 01/19 along the eastern boundary of the base, drains east into the watercourse that runs along the northern side the Belgian Gardens Cemetery, joining Mundy Creek to the east before flowing north into Rowes Bay.</p> <p>Sections of the base located adjacent to the runways, are subject to inundation and have pumping networks designed to prevent flooding. Surface water is pumped from sumps which discharge to the wetlands along the western, northwestern and northern sides of the base.</p> <p>Waterways and catchments are labelled in Figure 1 in Appendix A.</p>
Vegetation	<p>Grounds on-base are regularly maintained by the Estate Maintenance and Operation Support (EMOS) contractor. This includes mowing of grassed areas.</p> <p>Areas of wetland vegetation are present across the western portion of the base. These areas are populated with protected marine plants and classed as "Nationally Important Wetlands" by the <i>Environmental Protection and Biodiversity Conservation (EPBC) Act 1999</i>. However, the environmental values cited in the EPBC Protected Matters Search Tool report (Department of Climate Change, Energy, the Environment and Water, 2024) are unlikely to be sustained given the historical use of the base and the enactment of the wildlife hazard management plan which manages habitat on and surround the base to limit the frequency and severity of bird strikes with aircraft (AECOM, 2019).</p>
Current and previous land use (including AFFF use)	<p>The base has operated as an airfield since the late 1930s and the two runways are now shared with the Townsville Civilian Airport. Prior to use as an airfield, the land use was agricultural (grazing land) (AECOM, 2019). The base is subject to a large range of operational uses including but not limited to four military units, accommodation facilities, a fire station, current and former fire training grounds, fuel farms and an aircraft runway. PFAS was a component of legacy AFFF used at the base for managing fuel fires and training Defence personnel in fire-fighting techniques, which contained perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) as active ingredients.</p> <p>Defence has phased out the use of legacy AFFF to the use of Ansulite foam which does not contain PFOS and PFOA as active ingredients, although they are still present</p>

Element	Description
	<p>in trace amounts. Ansilite is used by Defence only in emergency situations where human life is at risk, or in controlled environments to test equipment.</p> <p>Previous environmental investigations have identified that soil, sediment, surface water and groundwater on- and off-base have been impacted by PFAS.</p> <p>The base is zoned under the Townsville City Plan (2022/02) (Townsville City Council, 2024) as 'Special Purpose' which facilitates industrial development that is of regional, state and national significance.</p>
Land uses surrounding the base	<p>The surrounding area comprises the residential suburbs of Pallarenda, Rowes Bay, West End and Belgian Gardens. Other land use includes various public facilities and parklands, a cemetery, and commercial/light industrial land use in the suburbs of Mount Louisa, Mount St John and Bohle. The Townsville Town Common Conservation Park is zoned as "Public Utilities – Townsville City Council (Reserves)" and "Special Uses – National parks" under the Townsville City Plan. Bohle River and Bohle River estuary are also extensively used for recreational fishing.</p>

2.2 Management Area

The PFAS Management Area comprises the limits of the base where management actions, including those where institutional controls have been adopted, are identified, and managed by the PMAP (Department of Defence, 2020). The PMAP identifies three discrete Sub-Management Areas within the Management Area, which are monitored for changes in PFAS concentrations in groundwater, surface water and sediment. The Management Area and three Sub-Management Areas are shown in **Figure 1, Appendix A** and the Sub-Management Areas are presented in **Section 2.2.1** below. Off-base monitoring locations located outside the Management Area are within the Monitoring Area outlined in pink in **Figure 1, Appendix A** and discussed further in **Section 2.2.2**.

2.2.1 Sub-management areas (Source Areas)

The Sub-Management Areas have been defined based on the source areas identified in the DSI (WSP, 2018b). The Sub-Management Areas are outlined in **Table 2** and shown in **Figure 1, Appendix A**.

Table 2 Sub-management areas on-base

Sub-management area	Monitoring locations	Purpose
Sub-Management Area One (SMA1): Former Fire Training Area (CSR_QLD_000246).	MW013 ¹ , MW116 ¹ , MW118, MW126 ¹ , MW129 ¹ (Monitoring locations depicted in Figure 2, Appendix A)	This area is in the southeastern portion of the base. Surface water from this area flows to Mundy Creek. Historically the area was used for routine fire training activities, purging of fire trucks, and testing of aqueous AFFF mixing (Department of Defence, 2020). This area has undergone remediation activities which resulted in the loss of monitoring well infrastructure during the OMP implementation period.
Sub-Management Area Two (SMA2): Former Fire Training Area (CSR_QLD_000244), Fire Station (CSR_QLD_000245), Fuel Farm 2 (CSR_QLD_000351).	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251 (Monitoring locations depicted in Figure 2, Appendix A)	This area is in the centre of the base and is a source area for Louisa Creek Catchment and the Townsville Town Common. This area has been defined to manage the PFAS source from historical fire training activities, equipment testing, sparging of fire trucks and AFFF spills at the fire station (Department of Defence, 2020).

Sub-management area	Monitoring locations	Purpose
Sub-Management Area Three (SMA3): 5 Aviation Regiment (5AVN)	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248, MW249 ¹ (Monitoring locations depicted in Figure 2, Appendix A)	This area is in the southwestern portion of the base and is a source area for Louisa Creek Catchment and the Townsville Town Common. This management area is defined to manage the PFAS source from testing AFFF deluge systems in the 5AVN precinct, including discharges and spills from hangars (Department of Defence, 2020).

¹ Historical monitoring location, no longer included in SAQP.

2.2.2 Other on-base groundwater monitoring areas (outside SMAs)

Table 3 presents remaining on-base groundwater monitoring wells in the Management Area and shown in **Figure 2, Appendix A**.

Table 3 Remaining on-base groundwater monitoring locations

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

2.3 Monitoring Area

In addition to the on-base locations, groundwater monitoring locations and surface water catchments off-base are also monitored for changes in condition within the Monitoring Area, outlined in pink in **Figure 1, Appendix A**. These areas are presented in the following sub-sections.

2.3.1 Additional groundwater monitoring areas

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

Table 4 Off-base groundwater monitoring locations

Area	Monitoring locations	Purpose
Off-base		
Townsville Town Common Conservation Park	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208	These locations are within the nearby sensitive receiving environment.
Bohle River and Bohle Industrial Estate	MW231, MW237, MW238 ¹ , MW239, MW240, MW254, MW262	Monitoring of these locations allows for an understanding of groundwater flow and potential cross-gradient flow of contaminants or capture of off-base sources of contamination.
Pallarenda	MW233, MW252, MW253	These locations are in the residential suburb of Pallarenda, to the north and down-gradient of the base.
Rowes Bay and Belgian Gardens	MW209 ¹ (replaced with MW301), MW210 ¹ (replaced with alternative location MW471), MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264 ¹ , MW467	These locations are in the residential suburbs of Rowes Bay and Belgian Gardens, to the northeast of the base.
Garbutt	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270	These locations are in the residential suburb of Garbutt, to the southeast of the base.

¹ Historical monitoring location, no longer included in SAQP.

2.3.2 Surface water catchments

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

Table 5 Surface water catchments

Catchment	Monitoring locations	Purpose
Mundy Creek (Monitoring locations depicted in Figure 3, Appendix A)	SW/SD001, SW/SD010, SW/SD106, SW/SD108, SW/SD109, SW/SD113, SW/SD114, SW/SD115, SW/SD116, SW/SD117, SW/SD118, SW/SD119, SW/SD121, SW/SD132, SW/SD208, SW/SD209.	This catchment is monitored to understand the transport of PFAS in surface water from SMA1 as defined in Table 2 .
Bohle River / Louisa Creek / Town Common (Monitoring locations depicted in Figure 3, Appendix A)	SW/SD013, SW/SD014, SW/SD016, SW/SD017, SW/SD019 ¹ , SW/SD021, SW/SD110, SW/SD111, SW/SD112, SW/SD120, SW/SD123, SW/SD125, SW/SD126, SW/SD127, SW/SD129, SW/SD131, SW/SD201, SW/SD202, SW/SD203, SW/SD204, SW/SD205, SW/SD206, SW/SD207.	This catchment is monitored to understand the transport of PFAS in surface water from SMA2 and SMA3 as defined in Table 2 .

Catchment	Monitoring locations	Purpose
Three Mile Creek (Monitoring locations depicted in Figure 3, Appendix A)	SW/SD102, SW/SD107, SW/SD210.	This catchment is monitored to understand the transport of PFAS in surface water from a potential former fire training ground (CSR_QLD_000247) at the northern end of the main runway.

¹ Location SW/SD019 was removed from the SAQP scope following the October 2023 monitoring event due to the drain being infilled with cobbles and mesh.

A subset of surface water locations are sampled as part of the rainfall event sampling, these are shown in **Figure 3, Appendix A**.

3.0 Sampling and Analytical Methodology

3.1 Sampling Methodology

The SAQP (Rev 11, 27 February 2024, (AECOM, 2024a); **Appendix D**) outlines the proposed schedule, methodology, analytical regime and rationale for sampling, prescribing six-monthly groundwater, surface water and sediment sampling on and off-base, with the addition of one rainfall event per calendar year. A rainfall event is triggered in response to 50 mm of rainfall recorded at Townsville Aero weather station on the *Bureau of Meteorology (BOM)* website (www.bom.gov.au) (BOM, 2024) or 100 mm of cumulative rainfall over a 7-day period. Once the rainfall event is triggered the monitoring includes surface water sampling at 19 locations, daily for a period of 5 days.

The list of groundwater monitoring wells, surface water and sediment locations sampled during each of the above events and the rationale for the well and location selection is summarised in the SAQP (AECOM, 2024a). Deviations from the SAQP are presented below in **Section 3.2**.

A summary of the monitoring events completed during the monitoring period, is provided in **Table 6**.

Table 6 Summary of monitoring (June 2023 to March 2024)

Monitoring Event (Sampling dates)	Scope as per SAQP applicable at sampling time	Locations Sampled	Analysis
Biannual Sampling – October 2023 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2024b) (4 October – 17 November 2023)	Gauging at 28 selected groundwater monitoring wells Collect samples from: 82 MW locations 42 SW locations 42 SD locations	80 MW locations 34 SW locations 41 SD locations	PFAS extended suite
Rainfall Event, January 2024 after 64.4 mm of rainfall recorded at Townsville Aero (BOM station 032040) on 11 January 2024. (AECOM, 2024c) (11 – 15 January 2024)	19 SW locations sampled each day for five consecutive days	19 SW locations sampled each day for five consecutive days	PFAS extended suite
Biannual Sampling – March 2024 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2024d) (11 – 25 March 2024)	Gauging at 28 selected groundwater monitoring wells Collect samples from: 105 MW locations 41 SW locations 41 SD locations	103 MW locations 38 SW locations 37 SD locations	PFAS extended suite

Notes: SW = surface water; MW = monitoring well (groundwater), SD = sediment

3.2 Deviations from SAQP requirements

The works undertaken over the monitoring period generally complied with the SAQP (AECOM, 2024a) which notes deviations from the OMP. Some deviations from the SAQP (AECOM, 2024a) were recorded as some locations were not able to be sampled due to access restrictions, damage to the monitoring well network, or dry surface water channels at the time of sampling. These deviations are summarised in the following subsections.

3.2.1 Groundwater

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

Table 7 Deviations from SAQP for groundwater

Sampling event	Location ID	Issue	Impact
October 2023	MW013, MW233	Two groundwater samples were not collected, both located close to SMA1: <ul style="list-style-type: none"> MW013 was unable to be sampled due to remediation works being completed in SMA1 restricting access to this location. MW223 was unable to be sampled as it could not be found during the sampling event. The location of the well and surrounds has recently been resurfaced with compacted gravel. 	PFAS concentrations unknown at these locations within the monitoring period. Suitable alternative downgradient wells are present and currently monitored and sufficient historical data are available to give an understanding of PFAS at these locations and therefore MW013 and MW233 are not planned to be reinstated.
	MW013, MW118, MW223, MW244	The version of the SAQP at the time of the monitoring event nominated MW244 to be gauged, but MW244 was not gauged as water measurements were historically at or near the top of the casing and not considered representative of the aquifer. Three other wells were not gauged: <ul style="list-style-type: none"> MW013 and MW223 for reason above. MW118 due to airside access not granted on gauging day, and the well was inaccessible. In replacement, gauging of three alternative wells was completed. The alternative wells were MW033, MW026 and MW120 respectively.	No impact on the gauging event from not gauging MW244 due to previous measurements not being representative of the aquifer. No impact on the gauging event as replacement locations were as close as possible to the nominated wells and suitable to provide groundwater level data to allow groundwater contour and flow direction to be inferred.
	MW015, MW021	MW015 and MW021 resampled on 17 November 2023 due to anomalous results that reported concentrations of PFOS, PFOA and sum of PFOS+PFHxS an order of magnitude lower than historical results.	Resampled results were consistent with historical results and accepted as the Dry Season 2023 results.
March 2024	MW238, MW264	The road at MW238 and MW264 has been resurfaced since the last monitoring round. MW238 and MW264 could not be found during the March 2024 event and are now considered lost. As a result, these locations were not sampled and MW264 was not gauged during the gauging round as planned.	PFAS concentrations are unknown for this sampling event for these locations. Suitable alternative down gradient monitoring wells were accessible and sampled during the sampling event. Omission of data from MW264 from the gauging round does not have an impact on the gauging event as suitable groundwater elevation data was collected to infer groundwater flow direction during this sampling event. Maintenance of the monitoring well network is planned for June 2024

Sampling event	Location ID	Issue	Impact
			including replacement of MW264 with MW546 and resurvey and replacement of concrete at MW043. Replacement of MW238 is not planned to be completed as there are suitable alternative wells available to assess the nature and extent of PFAS in this area.

3.2.2 Surface water

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

Table 8 Deviations from SAQP for surface water

Sampling event	Location ID	Issue	Impact of deviation on data set
October 2023	SW019	One co-located surface water and sediment sampling location, SW/SD019, was not sampled because the drain has been filled in with cobbles and covered in chain link fencing.	The filling of the drain has altered the surface water pathway in this area, and this is a considerable change to SMA3 which requires further consideration. Surface water flow from SMA3 is still sampled from this drainage channel at SW123, which is located downstream of SW019.
January 2024	No deviations from the SAQP		
March 2024	SW019	Location was removed from SAQP prior to the March 2024 monitoring event as imported material is covering the sampling location.	Nil. SW123 is further downgradient and sufficient for monitoring impacts in this drain.
March 2024	SW106, SW112, SW209	SW106 and SW209 were inaccessible and unable to be sampled due to flooded access tracks and high grass coverage prohibiting safe access to the sampling locations. SW112 was unable to be sampled as the drainage channel was overgrown with grass and surface water was inaccessible.	PFAS concentrations are unknown for this sampling event for these locations. Future sampling rounds should attempt to sample these locations as access may have improved from reduced water levels and/or the grass having been cut to facilitate access. For on-base areas, the grounds maintenance contractor should be notified to cut the grass prior to the sampling event.

3.2.3 Sediment

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

Table 9 Deviations from the SAQP for sediment

Sampling event	Location ID	Issue	Impact
October 2023	SD019	One co-located surface water and sediment sampling location, SW/SD019, was not sampled because the drainage line has been filled in with cobbles and covered in chain link fencing.	The filling of the drain has altered the surface water pathway in this area, and this is a considerable change to SMA3 which requires further consideration. Sediment from SMA3 is still sampled from this drainage channel at SD123, which is located downstream of SD019.
October 2023	SD016	Sediment sample SD016 resampled on 17 November 2023 due to anomalous results that reported concentrations several orders of magnitude greater than historical results.	Resampled results from November were consistent with historical results and accepted as the Dry Season 2023 results.
March 2024	SD019	Location was removed from SAQP prior to the March 2024 monitoring event, based on the outcomes from October 2023 as presented above.	Nil
March 2024	SD106 and SD209	SD106 and SD209 were inaccessible and unable to be sampled due to flooded access tracks and high grass coverage prohibiting safe access to the sampling locations. SD112 was unable to be sampled as the drainage channel was overgrown with grass and sediment was inaccessible.	PFAS concentrations are unknown for this sampling event for these locations. Future sampling rounds should attempt to sample these locations as access may have improved from reduced water levels and/or the grass having been cut to facilitate access. For on-base areas, the grounds maintenance contractor should be notified to cut the grass prior to the sampling event.

3.3 Changes to the Monitoring Network

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

4.0 Quality Assurance and Quality Control

Data validation completed as part of the October 2023 (AECOM, 2024b), January 2024 (AECOM, 2024c) and March 2024 (AECOM, 2024d) Sampling Event Factual Reports is discussed in the individual reports (**Appendix E**).

Data validation procedures employed in the assessment of the field and laboratory quality assurance and quality control (QA/QC) data indicate 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 the factual and interpretive reports. A summary of the QA/QC outcomes from the factual reports includes:

- Anomalous results were reported at three locations in October (at SD016, MW015 and MW021) were resampled and the new November 2023 results accepted as they were more consistent with historical concentrations.
- Detections of PFAS in rinsate samples were investigated and indicated that concentrations were similar to previous results for samples collected on that day and therefore not deemed to affect the outcome of this investigation.
- Frequency of laboratory QA/QC was reported below the expected rates however the field QA/QC was reported within the required rates.
- Method blank value outliers were reported for perfluorobutanoic acid in water in ET2304991. No perfluorobutanoic acid was reported in the samples.
- No trip blanks were analysed in batch ET2401926. As the results for the samples in this batch were comparable to previous samples collected at these locations, there has been no contamination between sample collection and submission to the laboratory.
- Laboratory duplicates, laboratory control spike, surrogate spikes and matrix spike anomalies were reported outside the control range in some samples due to the samples containing high concentrations of PFAS making the spiked concentration undeterminable relative to the background concentration. Other reported anomalies were due to matrix interference and sample heterogeneity resulting in poor recovery and comparability.
- LORs were adjusted in some samples due to high PFAS concentrations relative to the LOR.
- Duplicate and triplicate relative percentage differences between samples were deemed to be the result of sample heterogeneity of differences in laboratory analytical methods.

5.0 Screening criteria

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

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

The adopted PFAS screening criteria used to assess the data generated as part of the monitoring are presented in **Table 10** below. The adopted PFAS screening criteria presented, is based on the Human Health Risk Assessment (HHRA; WSP, 2018a) and Ecological Risk Assessment (ERA; WSP, 2019a), and is also in accordance with the PMAP (Department of Defence, 2020) and the SAQP (AECOM, 2024a). These criteria were used to assess the collected data against.

Table 10 Summary of adopted screening criteria

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

Note:

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

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

6.0 Contextual and ancillary information

6.1 Remediation projects

PFAS remediation projects were commenced within SMA1 in the second half of 2022 and concluding in late-2023. Remediation works were planned to commence in SMA2 in 2024, however these had not commenced at the time of the latest sampling event during the monitoring period. These remediation projects have the potential to change the PFAS concentrations in the source areas and to influence the surface water infiltration and runoff in the local area. The effect of the remediation activities on PFAS concentrations migrating from these areas will be assessed based on the outcomes of the ongoing monitoring results.

6.2 Mass-flux Investigations

Mass-flux investigations were completed in 2021 (WSP, 2021) and 2023 (WSP, 2023) and identified:

- The maximum annual PFAS mass flux generated by groundwater is less than that generated by a single rainfall event, therefore remediation efforts should be directed to mitigation of surface water flux to reduce PFAS migration off-base.
- The total annual PFAS mass discharge via surface water from SMA1 is estimated at 0.38 kg.
- SMA2 (Catchment 4) is the greatest contributor to mass flux – both in groundwater and surface water. Catchment 4 drains the hardstand and structures associated with the fire station and old air traffic control building through underground stormwater infrastructure and, more locally, a grassed area around the drainage confluence and the Air Services Australia compound. The total estimated annual PFAS mass discharge from the catchments monitored within SMA2 is estimated at 8.6 kg (PFOS+PFHxS).
- The total annual PFAS mass discharge from SMA3 is estimated at 0.7 kg.

6.3 Infrastructure projects on-base

The following infrastructure projects were in progress during the monitoring period:

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

Infrastructure works were observed to be in progress on base, in the vicinity of the 5AVN Pump Station compound and east of 5AVN, and within the eastern portion of the base.

6.4 Weather events

Climatic data for the region is recorded at Townsville Aero (Station 032040), located on-base within SMA2 (BOM, 2024). The monitoring period was characterised by a wet summer and a dry winter. Monthly rainfall for the monitoring period and for the historic dataset dating back to 1940 is presented in **Figure 1** below.

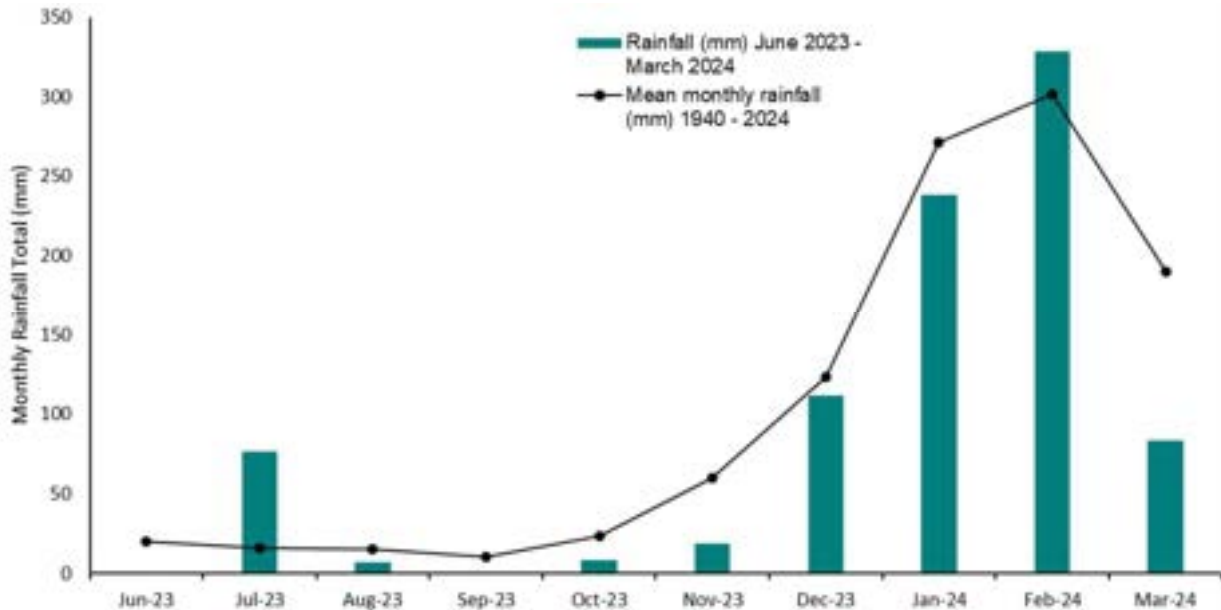


Figure 1 Monthly rainfall data – Monitoring period vs. mean (Station 032040 up to 31/03/2024) (BOM, 2024)

The mean annual rainfall from 1940 to 2024 is 1,136 mm. During the monitoring period of ten months, from June 2023 to March 2024, the cumulative monthly rainfall was 866 mm. From 1940 to 2024 the cumulative mean monthly rainfall is 1,031 mm for the same months of the monitoring period (i.e. 10 months including January to March and October to December). In summary, the cumulative rainfall during the monitoring period (866 mm) was below the cumulative mean monthly rainfall (1,031 mm).

Further details about rainfall triggered events and rainfall experienced during and preceding the sampling events within the monitoring period are detailed below:

- **October 2023**
 - The recorded rainfall during October 2023 was 8.4 mm, which is below the monthly mean for October (23.7 mm).
 - During the October 2023 sampling event conditions were generally dry, with only two days recording any rainfall (7/10/2023: 1.2 mm, 8/10/2023: 2.8 mm).
- **January 2024**
 - The January 2024 rainfall sampling event was triggered by 64.4 mm of rainfall recorded on 11 January 2024. Rain continued throughout the sampling event, from 11 January to 15 January 2024 with daily totals of up to 28.6 mm (15/01/2024) recorded during sampling.
 - Tropical cyclone Kirrily crossed the coast near Townsville as a Category 3 system on 25 January 2024. 0.8 mm of rain was recorded at Townsville Aero (Station 032040) on 25 January 2024 with 27.8 mm on 26 January 2024.
- **February 2024**
 - The recorded rainfall during February 2024 was 328.6 mm, which is above the monthly mean for February (301.9 mm).
- **March 2024**
 - The recorded rainfall during March 2024 was 83.3 mm, which is below the monthly mean for March (190.2 mm).
 - Light rain of 6 mm or less was experienced on approximately half of the days during the March 2024 sampling event. Except in the last week of the sampling event on 25 March 2024 when a daily total of 53 mm was recorded.

Stream water level monitoring data for Louisa Creek (Station 532032) (Townsville City Council, 2024) for each rainfall event was as follows:

- The average river height during the October 2023 dry season sampling event was 3.25 m AHD, reaching a maximum of 3.28 m AHD from the fifth week of the sampling program (2 November 2023).
- The average river height during the January 2024 rainfall event sampling was 3.64 m AHD, reaching a maximum of 3.98 m AHD on the first day of sampling (11 January 2024).
- The average river height during the March 2024 wet season sampling event was 3.54 m AHD, reaching a maximum of 4.78 m AHD on the final day of sampling (25 March 2024).

7.0 Monitoring data summary

The sampling events of the monitoring period are detailed in **Section 3.1**. The results are summarised in the following sections and shown in **Figures 4 to 12b** in **Appendix A**. The results are provided in **Tables T1 to T7** in **Appendix B**. In reviewing the data set AECOM also considered the historical data collected in 2017 as part of the PFAS DSI (WSP, 2018b), in 2018 and 2019 for the seasonal monitoring reports (WSP, 2019b; WSP 2019c) and in September 2019 to May 2023 for the OMP (AECOM, 2021b; AECOM, 2023a). Seasonal trends and related data are further interpreted in **Section 8.0**.

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

7.1 Groundwater

7.1.1 Groundwater elevation and flow direction

The standing water level (SWL) was measured in a subset of wells in accordance with the SAQP (AECOM, 2024a) representative of conditions across the base to evaluate the groundwater elevations (to m AHD) and flow regime. This gauging activity was completed within a 24-hr period. All wells were gauged prior to sampling. Groundwater elevation ranges within the subset of wells for events of the monitoring period are summarised in **Table 11** below. Full records of the gauging data across the monitoring period are available in each of the respective factual reports included in **Appendix E**.

Table 11 Summary of subset groundwater elevations for the monitoring period

Gauging event	No. wells	Min. GWE (m AHD)	Max. GWE (m AHD)	Min. Depth to groundwater (mbgl)	Max. Depth to groundwater (mbgl)
October 2023	28	0.803 (MW135)	3.944 (MW232)	0.749 (MW056)	-0.159 (MW056)
March 2024	27	1.353 (MW214)	4.722 (MW232)	2.890 (MW214)	2.461 (MW214)
Difference in elevation		0.55	0.78	Not applicable	Not applicable

Note: SWL = Standing Water level, GWE = Groundwater Elevation, m AHD = meters Australian Height datum, m bTOC = metres below top of casing. *MW056 is a monument cover

The table shows the groundwater elevation is between 0.55 to 0.78 m lower in the dry season (October) than in the wet season (March). In the dry season (October) the groundwater levels below ground level ranged between 0.749 mbgl to 2.890 mbgl. Wet season (March) groundwater level were shallow at MW002 being 0.108 mbgl and MW056 at the surface. MW056 has a negative depth to groundwater level due to being monument cover positioned within the wetland indicating surface water level is equal to the groundwater level at this location. Remaining groundwater levels in the wet season (March) ranged from 0.250 mbgl to 2.461 mbgl.

Figure 4 shows the inferred local groundwater flow direction during the end of dry season in October 2023 and **Figure 5** shows inferred local groundwater flow direction in the wet season in March 2024. Groundwater flow direction was consistent across both monitoring events and was observed to flow to the northeast in the central portion of the base, flat in the north of the base, and localised groundwater mounding is evident in the southeastern corner of the base.

Overall groundwater flow direction does not appear to differ significantly between seasons with the overall flow regime radial towards the northwest, north and northeast. This is generally consistent with previous investigations (**Table T2, Appendix B**).

Groundwater gradient for select transects across the Base and Management area is presented in Table 12. The groundwater gradient between the October 2023 and March 2024 event was consistent for flow direction to the north west, north and north east.

Table 12 Groundwater gradients for the monitoring period

Transect	Monitoring event	Well ID	Groundwater elevation (m AHD)	Groundwater elevation change between wells (m)	Distance between wells (m)	Groundwater Gradient
North west direction from MW232 to MW205	October 2023	MW232	3.944	2.810	5220	0.001
		MW205	1.134			
	March 2024	MW232	4.722	2.667	5220	0.001
		MW205	2.055			
North direction from MW232 to MW241	October 2023	MW232	3.944	2.963	3460	0.001
		MW241	0.981			
	March 2024	MW232	3.944	2.102	3460	0.001
		MW241	1.842			
North east direction MW232 to MW214	October 2023	MW232	3.944	3.020	3130	0.001
		MW214	0.924			
	March 2024	MW232	4.722	3.369	3130	0.001
		MW214	1.353			

7.1.2 Physicochemical Parameters

Groundwater physicochemical parameters were measured in the field from the same retrieved HydraSleeve™ immediately following the collection of groundwater samples. The physicochemical parameters are summarised in **Table 13** below. Current and historical field parameters are presented in **Table T2, Appendix B**.

Table 13 Summary – groundwater physicochemical parameters

Sampling Event	Dissolved Oxygen (DO) (mg/L)	Electrical Conductivity (EC) ($\mu\text{S}/\text{cm}$) ¹	pH (pH units)	Corrected Oxidation Reduction Potential (ORP) (mV) ²	Temperature (°C)
October 2023					
Minimum	0.39 (MW215)	349.2 (MW026)	3.4 (MW206)	-23.8 (MW221)	24.1 (MW056)
Maximum	6.84 (MW470)	100,399 (MW255)	8.2 (MW054)	442.5 (MW206)	31.1 (MW263)
March 2024					
Minimum	0.19 (MW229)	284.8 (MW269)	3.2 (MW207)	11.7 (MW268)	26.5 (MW140)
Maximum	8.94 (MW250)	118,115 (MW263)	8.2 (MW033)	562.8 (MW207)	34.8 (MW021)

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

The readings during the reporting period are consistent with previous investigations (WSP, 2019b; WSP, 2019c; AECOM, 2021b). Water quality parameters for temperature, DO, EC and pH were generally consistent between sampling events while ORP was variable. Freshwater influences were evident at MW266 and MW236 which recorded lower than usual EC readings over the last two monitoring rounds.

A summary of the physical characteristics of the groundwater is presented in table below and in the factual reports in **Appendix E**.

Table 14 Summary of groundwater physical properties observations

Sampling event	Observation	Locations
October 2023	Sulfurous odour	MW002, MW118, MW122, MW125, MW222, MW226, MW227, MW232, MW242, MW264, MW267
	Organic odour	MW004, MW056, MW135, MW205, MW206, MW244, MW207, MW212, MW213, MW214, MW215, MW216, MW218, MW221
	Biosheen	MW002
	Groundwater colour was recorded as clear, black, black/grey, brown, grey, light grey, light brown, and yellow. No other visible or olfactory indications of contamination were observed during the sampling of the monitoring wells.	
March 2024	Sulfurous odour	MW110, MW118, MW122, MW125, MW221, MW226, MW242, MW268
	Organic odour	MW021, MW061, MW063, MW203, MW213, MW215, MW220, MW231, MW239, MW240, MW252
	Biosheen	MW002
	Groundwater colour was recorded as clear, grey, brown, pale yellow, and yellow brown. No other visible or olfactory indications of contamination were observed during the sampling of the monitoring wells.	

7.1.3 Groundwater analytical results

All groundwater analytical results for this interpretative report included in the monitoring period are summarised in **Table T3 (Appendix B)**. Monitoring locations are presented in **Figure 2 (Appendix A)** and PFOS+PFHxS and PFOA concentration maps are presented in **Figures 6a to 7b (Appendix A)**.

PFOS, PFOA and PFOS+PFHxS concentrations reported during the monitoring period are summarised by Sub-Management Area in **Table 15**. **Table 16** presents details of the first-time detections of PFOA, PFOS and PFOS+PFHxS, new exceedance of guidelines, and new historical maximum and minimum concentrations detected during the monitoring period.

Table 15 Summary of PFOS, PFOA and PFOS+PFHxS concentrations in groundwater

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
SMA1						
October 2023	1	PFOS	1.63 (MW118)	1	N/A ¹	1
		PFOA	0.12 (MW118)	1		0
		PFOS+PFHxS	2.35 (MW118)	1		N/A ²
March 2024	1	PFOS	0.39 (MW118)	1	N/A ¹	1
		PFOA	0.03 (MW118)	1		0
		PFOS+PFHxS	0.6 (MW118)	1		N/A ²
SMA2						
October 2023	16	PFOS	0.13 (MW251) – 9,580 (MW021)	16	N/A ¹	16
		PFOA	<0.01 (MW251) – 694 (MW021)	13		1
		PFOS+PFHxS	0.31 (MW251) – 21,100 (MW021)	16		N/A ²
March 2024	16	PFOS	0.15 (MW246) – 14,000 (MW021)	16	N/A ¹	16
		PFOA	<0.01 (MW246) – 828 (MW021)	15		1
		PFOS+PFHxS	0.31 (MW246) – 28,100 (MW021)	16		N/A ²
SMA3						
October 2023	8	PFOS	<0.02 (MW142) – 428 (MW248)	7	N/A ¹	7
		PFOA	<0.01 (MW142) – 19.3 (MW248)	7		0
		PFOS+PFHxS	0.03 (MW142) – 658 (MW248)	8		N/A ²
March 2024	8	PFOS	0.01 (MW142) – 876 (MW248)	8	N/A ¹	7
		PFOA	<0.01 (MW142) – 31 (MW248)	7		0

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
		PFOS+PFHxS	0.03 (MW142) – 1,280 (MW248)	8		N/A ²
Remaining on-base						
October 2023	31	PFOS	<0.01 – 26.2 (MW245)	25	N/A ¹	21
		PFOA	<0.01 – 4.38 (MW245)	22		0
		PFOS+PFHxS	<0.01 – 80.5 (MW112)	27		N/A ²
March 2024	33	PFOS	<0.01 – 151 (MW243)	30	N/A ¹	20
		PFOA	<0.01 – 5.4 (MW112)	19		0
		PFOS+PFHxS	<0.01 – 217 (MW243)	32		N/A ²
Off-base						
October 2023	24	PFOS	<0.01 – 1.96 (MW218)	17	8	6
		PFOA	<0.01 – 0.12 (MW206)	7	0	0
		PFOS+PFHxS	<0.01 – 12.4 (MW206)	21	11	N/A ²
March 2024	45	PFOS	<0.01 – 0.64 (MW218)	32	10	3
		PFOA	<0.01 – 0.02 (MW206 and MW239)	4	0	0
		PFOS+PFHxS	<0.01 – 3.36 (MW218)	36	13	N/A ²

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

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

Table 16 Summary of first-time detections, new exceedance of guidelines, and new historical minimums and maximums for PFOA, PFOS and PFOS+PFHxS in groundwater

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off-base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
SMA1						
October 2023	PFOS	None	None	N/A	None	None
	PFOA		N/A			
	PFOS+PFHxS		N/A			
March 2024	PFOS	None	None	N/A	None	None
	PFOA		N/A			
	PFOS+PFHxS		N/A			
SMA2						
October 2023	PFOS	None	None	N/A	MW015 (76.8 µg/L)	None
	PFOA		N/A		None	
	PFOS+PFHxS		N/A		None	
March 2024	PFOS	None	None	N/A	None	MW021 (14,000 µg/L)
	PFOA		N/A		MW016 (9.51 µg/L), MW054 (0.61 µg/L), MW081 (61.9 µg/L)	None
	PFOS+PFHxS		N/A		MW016 (387 µg/L), MW054 (41.5 µg/L), MW081 (2,450 µg/L)	
SMA3						
October 2023	PFOS	None	None	N/A	None	MW009 (42.3 µg/L)
	PFOA					MW009 (2.28 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off-base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
	PFOS+PFHxS		N/A			MW009 (59 µg/L)
March 2024	PFOS	None	None	N/A	MW038 (1.05 µg/L)	None
	PFOA				MW038 (0.08 µg/L), MW043 (3.48 µg/L)	MW125 (2.45 µg/L)
	PFOS+PFHxS				MW038 (2.4 µg/L), MW114 (21.8 µg/L)	None
Remaining on-base						
October 2023	PFOS	None	MW300 (0.16 µg/L)	N/A	None	MW004 (0.09 µg/L), MW224 (4.9 µg/L), MW232 (15.2 µg/L), MW265 (0.75 µg/L)
	PFOA		None		MW243 (0.77 µg/L)	MW470 (0.01 µg/L)
	PFOS+PFHxS		N/A		MW234 (0.02 µg/L), MW243 (17.1 µg/L)	MW470 (0.6 µg/L) MW224 (7.43 µg/L)
March 2024	PFOS	None	MW234 (0.31 µg/L)	N/A	MW026 (1.94 µg/L), MW242 (0.09 µg/L)	MW063 (30 µg/L), MW241 (1.26 µg/L), MW265 (0.99 µg/L), MW300 (0.22 µg/L)
	PFOA		None		MW026 (0.04 µg/L)	MW063 (1.21 µg/L), MW241 (0.06 µg/L)
	PFOS+PFHxS		N/A		MW026 (2.32 µg/L), MW136 (0.39 µg/L)	MW234 (0.36 µg/L), MW241 (4.25 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off-base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹	
Off-base							
October 2023	PFOS	None	None	None	MW211 (0.03 µg/L), MW216 (0.07 µg/L)	MW217 (0.01 µg/L)	
	PFOA		N/A		None	MW215 (0.01 µg/L)	
	PFOS+PFHxS		N/A		None	MW211 (0.04 µg/L), MW301 (0.14 µg/L)	None
March 2024	PFOS	None	MW266 (0.45 µg/L)	MW266 (0.45 µg/L)	MW221 (0.12 µg/L), MW225 (0.15 µg/L), MW256 (0.04 µg/L), MW258 (0.03 µg/L), MW267 (<0.01 µg/L), MW269 (<0.01 µg/L), MW301 (0.02 µg/L), MW467 (0.04 µg/L)	MW201 (0.03 µg/L), MW204 (0.06 µg/L), MW207 (0.11 µg/L), MW212 (0.07 µg/L), MW231 (0.03 µg/L), MW268 (0.05 µg/L)	
	PFOA		None	None	None	MW301 (<0.01 µg/L)	None
	PFOS+PFHxS		N/A	MW212 (0.09 µg/L), MW266 (0.47 µg/L)	MW221 (0.27 µg/L), MW225 (0.21 µg/L), MW256 (0.06 µg/L), MW258 (0.05 µg/L), MW263 (0.17 µg/L), MW267 (<0.01 µg/L), MW269 (<0.01 µg/L), MW301 (0.04 µg/L), MW467 (0.04 µg/L)	MW201 (0.04 µg/L), MW204 (0.06 µg/L), MW207 (0.16 µg/L), MW231 (0.04 µg/L), MW257 (0.13 µg/L), MW268 (0.05 µg/L)	

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

The new exceedance of the 95% species protection ecological guideline for freshwater and marine ecosystems at on-base locations MW300 (in October 2023) and MW234 (in March 2024) represents an increase in concentrations compared to previous results.

The new exceedance of the 95% species protection ecological guideline for freshwater and marine ecosystems and human health screening criteria (drinking water) in off-base location MW266 in March 2024 represents an increase in concentrations at this location compared to previous results. PFAS were previously detected in MW266 in 2019 at a lower LOR.

The new exceedance of the human health screening criteria (drinking water) for PFOS+PFHxS at off-base location MW212 in March 2024 represents an increase in concentrations at this location compared to previous results. The previous highest concentration of sum of PFOS and PFHxS at this location was 0.06 µg/L. Whilst the result is within the same order of magnitude as the previous maximum concentrations, concentrations of PFAS at this location continue to fluctuate.

Historical groundwater concentrations of PFOA and PFOS+PFHxS have been displayed graphically on temporal trend graphs, by Sub-Management Area and geographical area, in **Appendix C** for the following locations: Trends were assessed by comparing the current PFOS+PFHxS results with the historical results to identify if the concentrations at each location have increased or decreased over time. Where the results have fluctuated, no trend is reported. Where the reported results have been similar over the historical data set, the PFAS concentrations at that location are reported as stable.

Table 17 Groundwater temporal trend graphs

Graph ID	Monitoring/Management Area	Monitoring wells	Qualitative Trends
1a, 1b, and 1c	SMA1	MW013, MW116, MW118, MW126, MW129.	MW118 remains stable. Previously monitored wells in SMA1 have either been destroyed or were not accessible during the monitoring period.
2a, 2b, and 2c	SMA2	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251.	There was no clear trend across all the wells at SMA2. An increasing trend was identified at MW021 and MW138. No trend was identified at MW005, MW046, MW054, MW090, MW109. Concentrations at MW055 and MW250 have decreased since October 2021 and at MW081 since April 2021. Concentrations at MW110 have generally decreased since October 2019 and at MW246 since October 2022. Other locations are fluctuating (decreasing, then increasing, and vice versa) with mostly higher concentrations in the wet season at MW015, MW016, MW139 and MW251.
3a, 3b, and 3c	SMA3	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248, MW249.	There was no clear trend across all the wells at SMA3. Since 2018 concentrations have generally fluctuated (increasing, then decreasing and increasing again and vice versa) with no specific seasonal trends except higher concentrations reported in the wet season at MW248 compared to dry season results. Concentrations at MW038 decreased from April 2021 to March 2024.
4a, 4b, and 4c	On-base – Northern section and Northwest of Runway 07/25	MW136, MW140, MW243, MW244	No clear trend was observed across all the wells in this area. Concentrations at MW244 (since December 2018) have decreased overall. Concentrations at MW136 and MW243 continue to fluctuate (i.e. a decrease in concentrations followed by an increase and a gradual decrease and then increasing

Graph ID	Monitoring/Management Area	Monitoring wells	Qualitative Trends
			again and not in response to seasonal conditions). Concentrations at MW140 have remained stable and close to the LOR since April 2020.
5a, 5b, and 5c	On-base – East and Southeast of Sub-Management Area One	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232	The wells in this area generally exhibited stable concentrations except MW222 which reported higher concentrations during wet season sampling events and MW223 which reported higher concentrations in dry season events from October 2019 onwards.
6a, 6b, and 6c	On-base – South of Ingham Rd	MW226, MW227, MW228, MW229	No clear trend with concentrations reported below or close to the LOR. PFOA has not been detected since the LOR was raised for all results after September 2019.
7a, 7b, and 7c	On-base – Balance of Base Area	MW002, MW004, MW056, MW057, MW122, MW135, MW230, MW234, MW235, MW241, MW242, MW245, MW255, MW265, MW300, MW470	Increasing concentrations were reported at MW241, MW265 and MW300 and decreasing concentrations at MW122 (close to the LOR) MW135, and MW255. Results at other locations appeared to fluctuate between increasing and decreasing concentrations between sampling events with no apparent correlation to seasonal effects.
8a, 8b, and 8c	Off-base – Town Common Conservation Park	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208	Results are reported below or close to the LOR with more frequent detections at these locations during wet season sampling events.
9a, 9b, and 9c	Off-base – Bohle River and Bohle Industrial Estate	MW231, MW237, MW238, MW239, MW240, MW254, MW262	The LOR was raised in mid-2019. No clear trend with concentrations reported below or close to the LOR since mid-2019. Concentrations at MW240 and MW262 are fluctuating above and below the nominated ecological criteria.
10a, 10b, and 10c	Off-base – Pallarenda	MW233, MW252, MW253	Stable to decreasing trend with results generally reported below the LOR, noting the LOR was raised in late 2019.
11a, 11b, and 11c	Off-base – Rowes Bay and Belgian Gardens	MW209, MW210, MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264, MW467	No clear trend at most locations which fluctuated between increasing and decreasing concentrations between sampling events with no apparent correlation to seasonal effects. Potentially increasing concentrations were noted at MW212 with a first time exceedance at this location and potentially decreasing concentrations were noted at MW216 and MW256 and at MW467 from April 2022 to present.
12a, 12b, and 12c	Off-base - Garbutt	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270	A possible increasing trend was identified at MW218 with fluctuations since October 2021. Concentrations at MW217, MW219, MW236, MW257, MW268 and MW269, MW270 were below or close to the LOR with no apparent trends. Fluctuating concentrations were identified at MW221, MW225, MW259, MW266. Possible decreasing trends were reported at MW220, MW258, MW260, MW263 and MW267.

7.2 Surface water

7.2.1 Physicochemical Parameters

Surface water physicochemical parameters were measured prior to collecting samples. Current and historical field observations and field parameters are presented in **Table T4, Appendix B** and summarised in **Table 18** for the monitoring period.

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

Table 18 Summary – surface water physicochemical parameters

Parameter	DO (mg/L)	EC ($\mu\text{S/cm}$)	pH (pH units)	Corrected ORP (mV) ¹	Temperature (°C)
October 2023 (Dry Season)					
Minimum	1.16 (SW014)	501 (SW021)	2.8 (SW113)	104.2 (SW111)	24.5 (SW014)
Maximum	16.38 (SW132)	128,971 (SW107)	9.8 (SW119)	672.2 (SW113)	33.5 (SW107)
January 2024 (Rain Event)					
Minimum	1.88 (SW016)	77.9 (SW127)	5.2 (SW121)	77.5 (SW131)	26.8 (SW102 & SW129)
Maximum	14.8 (SW132)	44,766 (SW109)	9.2 (SW125)	574.6 (SW121)	36.7 (SW132)
March 2024 (Wet Season)					
Minimum	0.76 (SW131)	761 (SW016)	6.4 (SW125)	82.9 (SW131)	27.2 (SW113)
Maximum	9.15 (SW107)	63,190 (SW210)	9.4 (SW119)	401.9 (SW202)	35.9 (SW107)

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

The readings from the monitoring period indicate:

- Poorly to well oxygenated conditions
- Fresh to saline conditions
- Acidic to slightly alkaline conditions
- Moderately to strongly oxidising conditions.

The observations of physical properties of sampled surface water are summarised in Table 18 and presented in the factual reports in **Table 18** and **Appendix E**.

Table 19 Summary of surface water physical properties observations

Sampling event	Observation	Locations
October 2023	Hydrocarbon sheen	SW107
	Biosheen	SW106
	Organic odour	SW014, SW107, SW108, SW109, SW110, SW111, SW112, SW116, SW117, SW118, SW119, SW132, SW202, SW208, SW210
January 2024 Rainfall Event	Hydrocarbon sheen (slight)	SW017
	Biosheen	SW121
	Sulfurous odour.	SW014, SW125, SW129, SW131
March 2024	Biosheen	SW013, SW121
	Organic odour	SW013, SW108, SW111
	Sulfurous odour	SW121, SW131

7.2.2 Surface Water Analytical Results

Historical surface water analytical results are presented in **Table T5 (Appendix B)**. Monitoring locations are presented in **Figure 3 (Appendix A)** and PFOS+PFHxS and PFOA concentration maps are presented in **Figure 8a** to **Figure 10b (Appendix A)**.

Surface water monitoring locations have been summarised by catchment and PFOS, PFOA and PFOS+PFHxS concentrations recorded during the monitoring period, with results presented in **Table 20** below.

Table 20 Summary of PFOA, PFOS and PFOS+PFHxS concentrations in surface water

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of samples with concentrations > LOR	No. of samples exceeding human health recreational water guideline (HEPA, 2020)	No. of samples exceeding 95% species protection ecological guideline (HEPA, 2020)
Bohle River/Louisa Creek/Town Common catchment						
October 2023	18	PFOS	<0.01 – 62.8 (SW123)	18	2	5
		PFOA	<0.01 – 1.27 (SW123)	6	0	0
		PFOS+PFHxS	<0.01 – 75.2 (SW123)	18	5	N/A ¹
January 2024	45	PFOS	<0.01 – 30.8 (SW125 13/01/2024)	31	14	21
		PFOA	<0.01 – 0.91 (SW125 13/01/2024)	22	0	0
		PFOS+PFHxS	<0.01 – 51.3 (SW125 13/01/2024)	31	15	N/A ¹
March 2024	21	PFOS	<0.01 – 27.5 (SW123)	19	5	9
		PFOA	<0.01 – 1.75 (SW123)	11	0	0
		PFOS+PFHxS	<0.01 – 52.2 (SW123)	19	6	N/A ¹
Mundy Creek catchment						
October 2023	14	PFOS	0.01 (SW208) – 12.1 (SW119)	14	4	10
		PFOA	<0.01 – 1.18 (SW119)	10	0	0
		PFOS+PFHxS	0.02 (SW208) – 19.5 (SW119)	14	5	N/A ¹
January 2024	45	PFOS	<0.07 (SW108 11/01/2024) – 15.5 (SW132 13/01/2024)	44	13	42
		PFOA	<0.01 – 1.91 (SW132 13/01/2024)	39	0	0
		PFOS+PFHxS	0.04 (SW108 11/01/2024) – 28.1 (SW132 13/01/2024)	45	17	N/A ¹
March 2024	14	PFOS	0.01 (SW114) – 48.5 (SW001)	14	7	12
		PFOA	<0.01 (SW114) – 4.44 (SW132)	13	0	0

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of samples with concentrations > LOR	No. of samples exceeding human health recreational water guideline (HEPA, 2020)	No. of samples exceeding 95% species protection ecological guideline (HEPA, 2020)
		PFOS+PFHxS	0.01 (SW114) – 69.7 (SW001)	14	10	N/A ¹
Three Mile Creek catchment						
October 2023	2	PFOS	<0.01 (SW210) – 0.13 (SW107)	1	0	0
		PFOA	<0.01 (SW210) – 0.01 (SW107)	1	0	0
		PFOS+PFHxS	<0.01 (SW210) – 0.64 (SW107)	1	0	N/A ¹
January 2024	5 (SW102 sampled daily for 5 days)	PFOS	0.48 (11/01/2024 & 12/01/2024) – 0.95 (15/01/2024)	5	0	5
		PFOA	<0.01 (11/01/2024) – 0.02 (13/01/2024 to 15/01/2024)	4	0	0
		PFOS+PFHxS	0.78 (11/01/2024) – 1.44 (15/01/2024)	5	0	N/A ¹
March 2024	3	PFOS	<0.01 (SW210) – 0.64 (SW102)	2	0	2
		PFOA	<0.01 (SW210) – 0.5 (SW107)	2	0	0
		PFOS+PFHxS	<0.01 (SW210) – 2.48 (SW102)	2	2	N/A ¹

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

There were no first-time detections or new exceedances of adopted freshwater and marine 95% species protection guideline during the monitoring period.

Table 21 summarises new historical minimum and maximum concentrations reported for surface water during the reporting period.

Table 21 Summary of new historical minimums and maximums for PFOS, PFOA and PFOS+PFHxS in surface water

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
Bohle River/Louisa Creek/Town Common catchment					
October 2023	PFOS	None	None	SW110 (0.88 µg/L)	SW123 (62.8 µg/L)
	PFOA			None	SW110 (0.31 µg/L), SW111 (0.22 µg/L), SW126 (0.25 µg/L)
	PFOS+PFHxS	N/A		SW021 (0.04 µg/L)	SW123 (75.2 µg/L)
January 2024	PFOS	None	None	None	None
	PFOA				
	PFOS+PFHxS	N/A			
March 2024	PFOS	None	None	SW120 (0.04 µg/L)	None
	PFOA			SW120 (<0.01 µg/L)	SW206 (0.03 µg/L)
	PFOS+PFHxS	N/A		SW120 (0.08 µg/L)	None
Mundy Creek Catchment					
October 2023	PFOS	None	None	None	None
	PFOA				
	PFOS+PFHxS	N/A			
January 2024	PFOS	None	None	None	SW010 (12.0 µg/L)
	PFOA				SW010 (0.96 µg/L), SW115 (0.56 µg/L)
	PFOS+PFHxS	N/A			SW010 (16.4 µg/L)

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
March 2024	PFOS	None	None	SW114 (0.01 µg/L)	None
	PFOA			None	SW116 (0.16 µg/L), SW118 (1.78 µg/L)
	PFOS+PFHxS	N/A		SW114 (0.01 µg/L)	None
Three Mile Creek Catchment					
October 2023	PFOS	None	None	None	None
	PFOA				
	PFOS+PFHxS	N/A			
January 2024	PFOS	None	None	None	None
	PFOA				
	PFOS+PFHxS	N/A			
March 2024	PFOS	None	None	None	None
	PFOA				
	PFOS+PFHxS	N/A			

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

Historical surface water concentrations of PFOA, PFOS and PFOS+PFHxS have been displayed graphically on temporal trend graphs, by catchment, in **Appendix C**. These figures are detailed in **Table 22** below. Surface water temporal trend graphs also include daily rainfall totals. Trends were assessed by comparing the current PFOS+PFHxS results with the historical results to identify if the concentrations at each location have increased or decreased over time. Where the results have fluctuated (increased, then decreased and increased again or vice versa), no trend is reported. Where the reported results have been similar over the historical data set, the PFAS concentrations at that location are reported as stable.

Table 22 Surface water temporal trend graphs by catchment

Graph ID	Catchment	Surface water monitoring location	Qualitative Trends
13a, 13b, 13c	Bohle River/Louisa Creek/Town Common (on-base)	SW013, SW014, SW016, SW019, SW112, SW123, SW125, SW126, SW131,	Concentrations across the catchment have fluctuated with some new maximums reported, although an overall decrease of PFOS+PFHxS was observed at SW013 and SW019 between 2018 and 2024, SW014 between 2019 and 2024 and at SW131 between 2020 and 2024
14a, 14b, 14c	Bohle River/Louisa Creek/Town Common (off-base)	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207	Concentrations across the catchment have fluctuated, although an overall decrease of PFOS+PFHxS was observed at SW017, SW129, SW202 between 2017 and 2024, and at SW201 between October 2019 and 2024. Concentrations of PFOS+PFHxS at SW205, SW206 and SW207 have tended to be higher during wet season conditions including a new maximum at SW206.
15a, 15b, 15c	Mundy Creek (on-base)	SW001, SW010, SW106, SW121, SW132	Concentrations across the catchment have fluctuated, particularly during rain event sampling with some new maximums recorded. An overall decrease in PFOS+PFHxS concentrations was observed at SW106 from 2017 to 2024.
16a, 16b, 16c	Mundy Creek (off-base)	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209	Concentrations across the catchment have fluctuated particularly during rain event sampling with some new maximums recorded.

Graph ID	Catchment	Surface water monitoring location	Qualitative Trends
17a, 17b, 17c	Three Mile Creek (on and off-base)	SW102, SW107, SW210	Concentrations fluctuate during rain event sampling at SW102. Concentrations of PFAS at SW107 and SW210 tended to be stable and slightly higher in the wet season than in the dry season with less samples collected at SW107 in the dry season as this location is often dry with no sample collected.

7.3 Sediment

7.3.1 Sediment analytical results

Available sediment analytical results are presented in **Table T7 (Appendix B)**. Monitoring locations are presented in **Figure 3 (Appendix A)** and PFOS+PFHxS and PFOA concentration maps are presented in **Figure 11a to Figure 12b (Appendix A)**.

PFOS, PFOA and PFOS+PFHxS concentrations recorded during the monitoring period are summarised in **Table 23** below.

Table 23 Summary of PFOS, PFOA and PFOS+PFHxS concentrations in sediment

Sampling event	No. sample locations analysed	Compound	Concentration range (mg/kg)	No. of sample locations with concentrations > LOR
Bohle River/Louisa Creek/Townsville Town Common Conservation Park catchment				
October 2023	22	PFOS	<0.0002 – 8.94 (SD125)	20
		PFOA	<0.0002 – 0.0432 (SD123)	8
		PFOS+PFHxS	<0.0002 – 9.12 (SD125)	20
March 2024	21	PFOS	<0.0002 – 2.21 (SD125)	18
		PFOA	<0.0002 – 0.013 (SD125)	6
		PFOS+PFHxS	<0.0002 – 2.45 (SD125)	18
Mundy Creek catchment				
October 2023	16	PFOS	0.0005 (SD208) – 0.607 (SD113)	16
		PFOA	<0.0002 – 0.0221 (SD117)	11
		PFOS+PFHxS	0.0005 (SD208) – 0.736 (SD113)	16
March 2024	13	PFOS	<0.0002 – 0.474 (SD117)	12
		PFOA	<0.0002 – 0.0081 (SD118)	6
		PFOS+PFHxS	<0.0002 – 0.512 (SD117)	12
Three Mile Creek catchment				
October 2023	3	PFOS	0.0009 (SD210) – 0.179 (SD102)	3
		PFOA	<0.0002 (SD210) – 0.0025 (SD102)	2
		PFOS+PFHxS	0.0009 (SD210) – 0.271 (SD102)	3

Sampling event	No. sample locations analysed	Compound	Concentration range (mg/kg)	No. of sample locations with concentrations > LOR
March 2024	3	PFOS	0.0006 (SD210) – 0.0883 (SD102)	3
		PFOA	<0.0002 (SD210) – 0.0005 (SD102)	2
		PFOS+PFHxS	0.0006 (SD210) – 0.107 (SD102)	3

Table 24 presents details of the first-time detections of PFOS, PFOA and PFOS+PFHxS during the monitoring period.

Table 24 Summary of first-time detections of PFOS, PFOA and PFOS+PFHxS in sediment

Sampling Event	Compound	First-time Detection ¹	New historical minimum	New historical maximum ²
Bohle River/Louisa Creek/Townsville Town Common Conservation Park catchment				
October 2023	PFOS	SD201 (0.0003 mg/kg)	SD013 (0.0159 mg/kg)	SD129 (0.0043 mg/kg)
	PFOA	SD129 (0.0003 mg/kg)	None	SD123 (0.0432 mg/kg), SD111 (0.0011 mg/kg)
	PFOS+PFHxS	SD201 (0.0003 mg/kg)	SD013 (0.0183 mg/kg)	SD129 (0.0046 mg/kg)
March 2024	PFOS	None	SD013 (0.0153 mg/kg)	SD203 (0.0035 mg/kg)
	PFOA	SD203 (0.0002 mg/kg)	None	None
	PFOS+PFHxS	None	SD013 (0.0168 mg/kg)	SD203 (0.0037 mg/kg)
Mundy Creek Catchment				
October 2023	PFOS	None	None	SD010 (0.0561 mg/kg), SD106 (0.146 mg/kg), SD113 (0.607 mg/kg), SD116 (0.0217 mg/kg), SD117 (0.419 mg/kg)
	PFOA			SD113 (0.0063 mg/kg), SD115 (0.0021 mg/kg), SD116 (0.0013 mg/kg), SD117 (0.0221 mg/kg)
	PFOS+PFHxS			SD010 (0.058 mg/kg), SD106 (0.148 mg/kg), SD113 (0.736 mg/kg), SD116 (0.0232 mg/kg), SD117 (0.536 mg/kg)
March 2024	PFOS	None	SD208 (0.0003 mg/kg)	SD117 (0.474 mg/kg), SD118 (0.311 mg/kg)
	PFOA		None	SD132 (0.0044 mg/kg)
	PFOS+PFHxS		SD208 (0.0003 mg/kg)	SD118 (0.351 mg/kg)

Sampling Event	Compound	First-time Detection ¹	New historical minimum	New historical maximum ²
Three Mile Creek Catchment				
October 2023	PFOS	None	None	None
	PFOA			
	PFOS+PFHxS			
March 2024	PFOS	None	None	None
	PFOA			
	PFOS+PFHxS			

Note:

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

New detections of PFOS, PFOA and PFOS+PFHxS were reported in October 2023 at two locations and PFOA at one location in March 2024 for the Bohle River/Louisa Creek/Townsville Town Common Conservation Park catchment.

Historical sediment concentrations of PFOA, PFOS and PFOS+PFHxS have been displayed graphically on temporal trend graphs, by catchment, in **Appendix C**. These figures are detailed in **Table 25** below. Sediment temporal trend graphs also include daily rainfall totals.

Table 25 Sediment temporal trend graphs by catchment

Graph ID	Catchment	Sediment monitoring location	Qualitative Trends
18a, 18b, 18c	Bohle River/Louisa Creek/Town Common (on-base)	SD013, SD014, SD016, SD017, SD019, SD021, SD110, SD111, SD112, SD120, SD123, SD125, SD126, SD127, SD129, SD131, SD201, SD202, SD203, SD204, SD205, SD206, SD207	PFOA, PFOS and PFOS+PFHxS concentrations in sediment were generally stable. Potentially increasing PFOA and PFOS+PFHxS concentrations were identified at SD132. Potentially increasing PFOS concentrations were identified at SD117 and SD118 based on new maximum concentrations in 2024 compared to historical results.
19a, 19b, 19c	Bohle River/Louisa Creek/Town Common (off-base)		
20a, 20b, 20c	Mundy Creek (on-base)	SD001, SD010, SD106, SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD121, SD132, SD208, SD209	
21a, 21b, 21c	Mundy Creek (off-base)		
22a, 22b, 22c	Three Mile Creek (on & off-base)	SD102, SD107, SD210	

8.0 Discussion/interpretive analysis

8.1 Hydrogeology

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

The monitoring period comprised of one sampling event targeting the end of the wet season (March 2024) one sampling event that targeted the end of the dry season (October 2023) and one rain event (January 2024).

Groundwater elevations were between 0.803 (MW135) and 3.944 (MW232) m AHD in October 2023 and 1.353 (MW214) and 4.722 (MW232) m AHD in March 2024. This demonstrates that the groundwater elevation can change from 0.550 m AHD to 0.778 m AHD due to seasonal conditions when the water level rises due to infiltration of rainwater recharging the aquifer. When the water table rises and flooding occurs on the base, there is interaction between surface water and groundwater and then as the flood waters disperse and the water table drops, this interaction is reduced.

Below average rainfall was recorded for most months from June 2023 to April 2024, with above average rainfall recorded in July 2023 and February 2024. A decrease in groundwater elevation in line with decreased rainfall is evident in the shallow monitoring wells for the 2023 event.

Inferred groundwater flow directions in the shallow aquifer for sample events during the monitoring period were consistent with the flow presented in previous investigations (AECOM, 2023a) (WSP, 2018b), with groundwater flowing radially towards the northwest and north to the Town Common and northeast towards Rowes Bay.

8.2 Groundwater Results

Groundwater results for PFOA and PFOS+PFHxS compared to assessment criteria are presented in **Table T3** in **Appendix B** and shown in **Figures 6a to 7b**, **Appendix A**.

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

- Sub-Management Area One: 2.35 µg/L at MW118 in October 2023.
- Sub-Management Area Two: 28,100 µg/L at MW021 in March 2024, which was higher than October 2023 results.
- Sub-Management Area Three: 1,280 µg/L at MW248 in March 2024.

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

The plume extents are consistent between the two sampling events included in this OMR and previous OMR (AECOM, 2023a).

8.2.1 Sub-Management Area One

MW118 is the only well remaining in SMA1 following completion of the remediation of this area. Historical concentrations of PFOA and PFOS+PFHxS in SMA1 are presented in **Table T3** in **Appendix B** and graphically in **Graph 1a** and **1b** (**Appendix C**). Concentrations reported during the monitoring period were within the historical range of concentrations reported at this location. Further monitoring and installation of additional monitoring points is required to confirm the contamination status and remediation outcomes of this area moving forward.

8.2.2 Sub-Management Area Two

Historical concentrations of PFOA, PFOS and PFOS+PFHxS in Sub-Management Area Two are presented in **Table T3 (Appendix B)** and graphically in **Graphs 2a and 2b (Appendix C)**. SMA2 has historically reported the highest PFAS concentrations across the base.

PFOA, PFOS and PFOS+PFHxS results for SMA2 appear to be fluctuating, with results within historic ranges during the monitoring period except for MW021 as outlined below:

- At MW021, a new maximum PFOS concentration of 14,000 µg/L was reported in March 2024, however the sum of PFOS+PFHxS of 28,100 µg/L in March 2024 represented a decrease from the previous historical maximum for sum of PFOS+PFHxS of 34,100 µg/L in October 2021. This monitoring well is located within the fuel transport compound adjacent to the fire station, a previously identified source of PFAS. Since 2020, concentrations have increased and continue to fluctuate. The reason for the changes in PFOS and PFOS+PFHxS at MW021 is unknown and requires further monitoring to evaluate localised migration pathways. MW015, MW016 are downgradient of MW021 and MW139 is cross gradient to MW021. Concentrations of PFOS+PFHxS increased at well MW139 to a new historical maximum during the monitoring period, although MW015 and MW016 concentrations have remained within the historical range.

The new maximum PFOS result reported at MW021 and fluctuating concentrations at other wells within SMA2 indicate that further monitoring and investigation combined with remedial actions are required to address the PFAS sources in this area. It is also acknowledged that this Sub-Management Area has been identified for remediation works in 2024.

PFOS+PFHxS and PFOA results for SMA2 as presented in Graph 2a and 2b (in Appendix C) do not appear to have a consistent increase or decrease following dry or wet season conditions however mostly higher concentrations are reported in the wet season at MW015, MW016, MW139 and MW251. The plume extents appear to be unchanged from those presented in the 2018 DSI (WSP, 2018b), and 2020 - 2023 OMIR (AECOM, 2023a).

8.2.3 Sub-Management Area Three

Historical concentrations of PFOA, PFOS, and PFOS+PFHxS in SMA3 are presented in **Table T3 (Appendix B)** and graphically in **Graph 3a and 3b (Appendix C)**.

PFAS concentrations in groundwater in SMA3 are generally stable at all locations, except for MW125 which increased back to similar concentrations recorded in 2021 after previously indicating a downward trend.

New historical maximums of PFOS, PFOS+PFHxS and PFOA were detected at MW009 in October 2023 within the same order of magnitude as historical results.

Groundwater wells within SMA3 were reviewed for seasonal fluctuation of PFOA and PFOS+PFHxS concentrations as displayed in Graph 3a and 3b (Appendix C). PFOA and PFOS+PFHxS concentrations increased at MW248 in the wet season compared to dry season results potentially indicating that residual PFAS in soils above the groundwater table which are mobilised through rainfall infiltration and a rise in the groundwater table as discussed in Section 7.1.1. Concentrations at MW038 decreased from April 2021 to March 2024. Seasonal trends were not observed at the remaining wells in SMA3. The plume extents appear to be unchanged from those presented in the 2018 DSI (WSP, 2018b), and 2023 OMIR (AECOM, 2023a).

8.2.4 Other On-Base Wells

A new exceedance of the ecological guideline for PFOS was recorded at MW234 in March 2024. MW234 is located near the western base boundary. Similar concentrations of PFOS have historically been reported in nearby well MW056. Similar concentrations were reported at nearby off-base well MW262 in April 2023 however PFOS was not detected at MW262 in March 2024, therefore the plume extent is the same previous years.

New historical maximum concentrations of PFOS were reported at MW004, MW224, MW232 and MW470 in October 2023. MW224 recorded a new historical maximum for sum of PFOS+PFHxS in October 2023. MW470 also recorded a new historical maximum for PFOA and sum of PFOS+PFHxS in

October 2023. Concentrations at these same wells decreased in March 2024 except for MW232 which reported a similar concentration to the October 2023 result.

New historical maximum concentrations of PFOS were reported at MW063, MW241, MW265 and MW300 in March 2024. The reported concentrations at MW063 and MW265 are comparable to historical results and indicate a stable trend compared to MW241 and MW300 which indicated an increasing trend. MW241 is in the northeastern corner of the base in the direction of regional groundwater flow. MW470, MW208 and MW242 are located downgradient of MW241 and are not showing the same increasing trend with a new minimum concentration reported at MW242 in the March 2024 monitoring round.

A new historical maximum concentration of PFOS was reported at MW300 (southwestern base boundary) in March 2023 and concentrations at this location have been steadily increasing since the well was installed in 2021 however the concentrations reported are still below those historically reported for MW230 (which had a historical maximum of 0.54 µg/L for PFOS) which was replaced by MW300, therefore the plume extent remains unchanged.

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

8.2.5 Off-Base Wells

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

A new historical maximum concentration of PFOS was reported at MW207 in March 2024, an order of magnitude higher than previous maximums. The concentration at MW207 is similar to MW206 which has fluctuated since monitoring began in 2017. Both wells are in the Town Common, north of the base.

MW212 (located at the northeastern extent of the Mundy Catchment) reported a new maximum concentration for PFOS and PFOS+PFHxS in March 2024. Nearby wells MW214, MW213 and MW211 reported concentrations in a similar range historically.

A new exceedance of the adopted ecological guideline for PFOS and the human health screening levels for sum of PFOS+PFHxS was reported from in March 2024 at MW266 (located centrally in the Mundy Creek Catchment, and hydraulically down gradient from SMA1). The reported concentrations are similar to historical concentrations at nearby well MW218 and therefore the plume extent remains unchanged.

A potentially increasing trend in PFAS concentrations at off-Base MW218 was identified in Table 17 with fluctuations in concentrations since October 2021. MW218 is located centrally within the Mundy Creek Catchment, and hydraulically down gradient from SMA1 and SMA2. MW221 located in the same area as MW218, has historically detected PFAS within the same order of magnitude as the concentrations at MW218 since October 2021 and both locations are within the historical identified extent of the PFAS groundwater plume.

8.2.6 Summary

Overall, the groundwater monitoring results indicate the PFAS plume extent is consistent with the previous monitoring period (AECOM, 2023a).

Well maintenance was recommended following the March 2024 monitoring event which is scheduled to be completed in June 2024.

8.3 Rainfall Event Surface Water Results – January 2024

Rainfall event surface water sampling locations are presented in **Figure 3, Appendix A**.

Rainfall event sampling at SW010 and SW115 in the Mundy Creek Catchment reported concentration spikes during the targeted five-day sampling events. Locations SW010 reported new maximum concentrations of PFOA, PFOS, and PFOS+PFHxS and location SW115 reported new maximum concentrations of PFOA during rainfall event sampling in the monitoring period. These new maximums at SW010 and SW115 during the January 2024 exceeded the previous bi-annual wet and dry season

sample event concentrations. These spikes are expected, as the events are designed to target the first flush of contaminants following the dry season.

8.4 Biannual Surface Water Results – October 2023 and March 2024

Concentrations of PFOS+PFHxS in surface water generally decreased with increasing distance from the base, as shown in **Figure 8a** to **Figure 10b** in **Appendix A**.

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

8.4.1 Bohle River/Louisa Creek/Town Common Catchment

PFOA and PFOS+PFHxS concentrations within the Bohle River/Louisa Creek/Town Common catchment have continued a general stable trend, with expected fluctuations during the rain event sampling. SW013 (along the northern boundary of the base) indicated an overall decreasing trend for PFOS.

New maximum concentrations of PFOS at SW123 in October 2023 were significantly higher than previous results however concentrations during the January 2024 rainfall events were within the range of historical results at this location. Slightly higher concentrations were again reported in March 2024. This indicates a decrease in PFOS concentrations at SW123 in response to the January 2024 rainfall event.

New maximum concentrations of PFOA at SW110, SW111 and SW126 in October 2023 and SW206 in March 2024 are within the same order of magnitude as historic results. The higher concentrations from October 2023 were not replicated in the March 2024 sample results.

8.4.2 Mundy Creek Catchment

Concentrations of PFAS in surface water are generally stable with no clear trend. Concentrations were observed to fluctuate during the rain event sampling. This is an expected response as water moves through the catchment due to overland flow. No new exceedances of adopted guidelines were reported during the monitoring period. New historical maximum concentrations for PFOA were reported at SW116 and SW118. A similar response was reported for the corresponding sediment samples.

8.4.3 Three Mile Creek Catchment

There were no new exceedances of adopted guidelines or new maximum concentrations reported for the Three Mile Creek Catchment surface water locations during the monitoring period. Temporal trend graphs for this catchment presented in **Graphs 17a** and **17 b** in **Appendix C** indicated that concentrations of PFAS in this catchment are stable.

8.4.4 Summary

Consistent with the previous reporting period (AECOM, 2023a), PFOA, PFOS, and PFOS+PFHxS concentrations varied due to seasonal fluctuation evident in increased concentrations in response to rainfall potentially resulting in migration of PFAS to surface water.

Generally, the highest concentrations were reported at locations closest to the on-base source areas (SW123 – which targets drainage from SMA3 and runway 07/25 and SW125- which targets drainage from runway 07/25) and downgradient of SMA1 (SW011 and SW132). Concentrations further from the base have been reported at lower concentrations when compared to sampling locations near the base boundary. PFAS was detected in surface water bodies approximately 6 km away from the base (SW204- at the mouth of the Bohle River) at concentrations two to three orders of magnitude lower compared to source area locations on-base (SW123 and SW125) or downgradient of SMA1 (SW001 and SW132). This is consistent with the previous monitoring period and may be related either to the complex surface and groundwater interactions which vary with changes to water table elevation and flooding or potentially to unidentified off-base sources of PFAS in surface water as stated in the DSI (WSP, 2018b).

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

8.5 Sediment

Concentrations of PFOA and PFOS+PFHxS are shown in **Figure 11a** to **Figure 12b** in **Appendix A**.

8.5.1 Bohle River/Louisa Creek/Town Common catchment

PFAS were detected for the first time at SD201 as PFOS and at SD129 as PFOA in October 2023, however, were then not detected in the March 2024 sampling event. Concentrations of PFOA, PFOS and PFOS+PFHxS in the Bohle River/Louisa Creek/Town Common catchment were highest on-base. New maximum concentrations were reported at off-base locations SD111, SD129, and on-base location SD123 in October 2023. Subsequent monitoring in March 2024 indicated that concentrations had returned within the historical range at these locations. PFOA was detected for the first time at SD203 in March 2024 and a new historical maximum of PFOS was reported at the same location. SD203 is located near the Bohle River mouth downstream of the Town Common. This location is tidally influenced.

8.5.2 Mundy Creek catchment

Consistent with the previous monitoring period, the highest PFAS concentrations in the off-base area were reported within the Mundy Creek catchment. These locations are downgradient of SMA1 and SMA2. This is consistent with results from the previous 2020-2023 reporting period.

During the monitoring period, on-base locations within the Mundy Creek catchment were stable for PFOA, PFOS and PFOS+PFHxS except at SD010, SD106, SD113, SD117, SD118 and SD132 which reported new historical maximum concentrations of PFOA, PFOS and/or PFOS+PFHxS.

Whilst the concentrations within the Mundy Creek catchment are generally stable, there is variability in sediment concentrations along the Mundy Creek drainage lines and PFAS point sources may potentially include both on-and off-base sources.

8.5.3 Three Mile Creek catchment

No new exceedances or historical maximum concentrations were reported in the Three Mile Creek catchment during the monitoring period. The highest concentrations of PFOS+PFHxS and PFOA in the Three Mile Creek Catchment was reported at on-base sampling location, SD102 at 0.271 mg/kg and 0.0025 respectively in March 2024. This location is at the northern end of the main runway and north of the Management Areas. There is a pump at this location to transfer water from the runway, off-base, in times of flood which discharges to the former Rowes Bay Landfill area.

Off-base location SD107 is downstream of SD102 and reported concentrations within the same order of magnitude as historical results. The other off-base location, SD210, detected PFAS in the monitoring period within historical ranges.

8.5.4 Summary

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

- SD010 and SD132 (on-base Mundy Creek Catchment)
- SD117 and SD118 (off-base Mundy Creek Catchment down-gradient of SMA1)
- SD203 (off-base Bohle River/Louisa Creek/Town Common Catchment).

It is noted that SD117 and SD118 are downgradient of SMA1 where remediation works were completed from mid-2022 to late 2023. Remediation works may have affected concentrations at SD117 and SD118 via sediment mobilisation from rainfall erosion at the remediation site. Further monitoring of these locations may be used to verify the impacts of remediation efforts on and off-base. The current sampling locations and frequency are considered adequate to evaluate PFAS impacts in sediment on and off-base.

9.0 Conceptual site model

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

Table 26 Summary of conceptual site model (Department of Defence, 2020)

Catchment	PFAS Sources	Pathways resulting in potentially unacceptable risks	Receptors where risks are potentially unacceptable
Bohle River/Louisa Creek/Town Common catchment	Sub-Management Area Two: <ul style="list-style-type: none"> Former Fire Training Area (CSR_QLD_000244) Fire Station (CSR_QLD_000245) Fuel Farm 2 (CSR_QLD_000351). Sub-Management Area Three: <ul style="list-style-type: none"> 5 Aviation Regiment (5AVN) 	<ul style="list-style-type: none"> Direct contact with PFAS impacted soil in an on-base sub-grade maintenance trench. Surface water runoff and stormwater discharges to on-base drains, and surrounding wetlands and creeks. PFAS may also sorb onto soils and sediments within surface water drains and creeks. The lateral migration of PFAS in surface waters off-base. PFAS is then available for uptake via aquatic and terrestrial biota and transferred through the food web. 	<u>Human health</u> <ul style="list-style-type: none"> On-base subgrade maintenance workers where no strategies are engaged to reduce exposure to PFAS impacted soil (e.g. PPE, personnel hygiene, etc.)
Mundy Creek catchment	Sub-Management Area One: <ul style="list-style-type: none"> Former Fire Training Area (CSR_QLD_000246). 		<u>Ecological</u> <ul style="list-style-type: none"> Aquatic invertebrates, amphibians and fish in impacted waters in source areas. Aquatic invertebrates, amphibians and fish in Louisa Creek and Mundy Creek catchments. Semi-terrestrial and terrestrial invertebrates, reptiles, amphibians, birds, and mammals that consume aquatic organisms from Louisa Creek and Mundy Creek catchments
Three Mile Creek catchment	Negligible source areas		

The sampling conducted over the monitoring period (October 2023 to March 2024) has provided additional data to further understand the nature and extent of PFAS concentrations in groundwater, surface water and sediment. Comparison to the available historical dataset indicates that PFAS concentrations in groundwater and surface water are relatively stable since the CSM was developed as part of the DSI (WSP, 2018b). Some fluctuation in the concentrations of individual PFAS compounds at individual monitoring locations is occurring, but the PFAS transport mechanisms and extent of the plume has not changed. The concentration range for groundwater, surface water and sediment monitoring locations, recorded during the monitoring period are shown in **Figures 6a to Figure 12b (Appendix A)**. The groundwater monitoring well with the highest PFAS concentrations (MW021) is within a previously defined source area and as such, the exposure scenario is covered by the existing CSM. Some increases in surface water and sediment concentrations were seen both on-base and off-base, particularly to the north and west of the base, consistent with historical results. The extent and nature of the PFAS detected remains stable.

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

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

10.0 Discussion

10.1 Risk profile

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

- Groundwater PFAS concentrations are relatively stable and consistent with figures presented in the 2017 DSI (WSP, 2018b), Seasonal Monitoring Reports (WSP, 2019b; WSP, 2019c) and the 2023 OMIR (AECOM, 2023a).
- The overall PFAS plume extent has remained consistent with historical extents.
- Off-base well MW266 had a new exceedance of the PFOS adopted ecological guideline in March 2024. The concentrations of PFOS at MW266 in March 2024 are similar to historical concentrations of PFOS at nearby well MW218. The risk assessment previously identified exceedances of the ecological criteria in off-base locations and therefore the risk profile remains the same.
- On-base wells MW300 and MW234 located outside the Sub Management Areas represented a new exceedance of the adopted ecological guideline. The risk assessment previously identified exceedances of the ecological criteria in on-base locations and therefore the risk profile remains the same.
- Off-base wells MW212 and MW266 reported new exceedances of the adopted human health screening criteria (drinking water). The risk assessment previously identified that off-base groundwater was not used for drinking purposes and as this incomplete exposure pathway has not changed, the risk profile remains the same.
- PFAS concentrations in surface water and sediment samples were generally consistent with historical results with some increasing concentrations requiring continued seasonal monitoring to identify trends.
- A potentially increasing trend in PFAS concentrations was identified at off-Base well MW218 with fluctuations in concentrations since October 2021. MW221 is located in the same area as MW218 and has historically detected PFAS within the same order of magnitude as MW218 since October 2021. Both locations are within the historical identified extent of the PFAS groundwater plume.

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

Further monitoring is required to further assess potential seasonal trends and to further assess key groundwater and surface water locations on the base boundary and off-base locations which recorded new historical maximum concentrations. There were some first-time detections (three sediment locations of Bohle River / Louisa Creek / Town Common catchment) and new exceedances of guideline values (in groundwater on-base at MW300 and MW234, and off-base at MW212 and MW266), however these locations are in areas and scenarios already considered in the CSM and therefore do not represent a change to the risk profile.

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

10.2 Triggers for OMP Review

Following a review of the data collected during the current monitoring period (June 2023 to March 2024), there have been no changes to the understanding of risks associated with PFAS in the RAAF Base Townsville Monitoring and Management Areas, spatial distribution of PFAS, and the need for monitoring of additional media. Based on this, there are currently no triggers for review of the OMP.

11.0 Conclusions

Groundwater, surface water and sediment monitoring were completed as part of the OMP in October 2023, and March 2024 and rainfall event sampling was completed in January 2024, in general accordance with the SAQP. Data from the DSI (WSP, 2018b), Seasonal Monitoring Reports completed in 2019 (WSP, 2019b; WSP, 2019c), 2020 AIR (AECOM, 2021b) and 2023 OMIR (AECOM, 2023a) were included in this report to assess changes from historical conditions.

Whilst there are some PFAS concentration outliers for the monitoring period, most groundwater PFAS concentrations are consistent with historical data and within the range of seasonal variability for wet and dry season conditions. A potentially increasing trend in PFAS concentrations at off-Base MW218 was identified with fluctuations in concentrations since October 2021 but are within the same order of magnitude as historical PFAS concentrations in nearby off-Base well MW221. While locations within Sub-Management Area One, Two and Three will require on-going monitoring to assess the long-term influence of remediation works and impacts to areas down hydraulic gradient of source areas with elevated concentrations; overall, the nature and extent of PFAS in groundwater off-base has not changed from the understanding presented in the investigation phases and the PMAP (Department of Defence, 2020) with some locations indicating a decreasing trend.

Concentrations of PFAS in surface water and sediment within the Mundy Creek, Bohle River/Louisa Creek/Town Common and Three Mile Creek catchments were mostly within historical ranges with some seasonal variability (tending to higher concentrations during wet season sampling rounds) and decreasing trends noted at some locations. Potentially increasing concentrations were noted at some surface water and sediment locations, particularly within the Mundy Creek/Bohle River/Louisa Creek/Town Common Catchments. These locations are within areas which have historically exceeded adopted guidelines values and therefore the risk profile is unchanged.

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

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

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

12.0 References

- AECOM. (2019). *Stage 1 Preliminary Site Investigation – RAAF Base Townsville (0874), March 2019, Rev C.*
- AECOM. (2021b). *Annual Interpretive Report 2020 - PFAS Ongoing Monitoring Program - RAAF Base Townsville.*
- AECOM. (2023a). *Ongoing Monitoring Interpretive Report (December 2020 - May 2023) - RAAF Base Townsville.*
- AECOM. (2024a). *Sampling and Analysis Quality Plan, PFAS OMP RAAF Base Townsville, Revision 11.* Townsville: AECOM.
- AECOM. (2024b). *Dry Season Sampling Event Factual Report, October 2023 - PFAS OMP - RAAF Base Townsville.*
- AECOM. (2024c). *Rainfall Event Sampling Factual Report, January 2024 - PFAS OMP - RAAF Base Townsville.*
- AECOM. (2024d). *Wet Season Sampling Event Factual Report, March 2024 - PFAS OMP - RAAF Base Townsville.*
- BOM. (2024, March 25). *Bureau of Meteorology (BOM) Townsville Aero (Station number 032040).* Retrieved from Townsville Aero (Station number 032040): http://www.bom.gov.au/climate/averages/tables/cw_032040.shtml
- Department of Climate Change, Energy, the Environment and Water. (2024). *Protected Matters Search Tool.* Retrieved from <https://www.dcceew.gov.au/environment/epbc/protected-matters-search-tool>
- Department of Defence. (2020). *RAAF Townsville PFAS Management Area Plan.* Department of Defence.
- Department of Defence. (2024). *Ongoing monitoring program reporting guidance. Directorate of PFAS Investigation and Management Branch / Infrastructure Division. Revision 0 issued February 2024.* Department of Defence (Defence).
- Department of Health. (2019). *Health Based Guidance Values for PFAS for use in site investigations in Australia (updated September 2019).*
- HEPA. (2020). *PFAS National Environmental Management Plan (PFAS NEMP) (Version 2.0).*
- National Environment Protection Council (NEPC). (1999). *National Environment Protection (Assessment of Site Contamination) Measure, Schedule B2: Guideline on Site Characterisation (as amended in May 2013) [ASC NEPM].*
- National Health and Medical Research Council (NHRMC). (2019). *Guidance on PFAS in Recreational Water.*
- Townsville City Council. (2024, May). *City of Townsville.* Retrieved from City Plan (planning scheme): <https://www.townsville.qld.gov.au/building-planning-and-projects/planning-and-building-approval/planning-guidelines-and-tools/city-plan-planning-scheme>
- Townsville City Council. (2024). *Stream Level Data - Louisa Creek (station 532032).*
- WSP. (2018a). *RAAF Base Townsville Human Health Risk Assessment (HHRA).*
- WSP. (2018b). *RAAF Base Townsville Detailed Site Investigations - PFAS.*
- WSP. (2019a). *RAAF Base Townsville - Ecological Risk Assessment (ERA).*
- WSP. (2019b). *RAAF Base Townsville - Seasonal Monitoring Report 1 - PFAS, March 2018.*
- WSP. (2019c). *RAAF Base Townsville Seasonal Monitoring Report 2 - PFAS - December 2018 and May 2019.*
- WSP. (2021). *2021 Mass Flux Report.*

WSP. (2023). PFAS Surface Water Mass Discharge Sub-Management Areas 2 and 3: RAAF Base Townsville.

Appendix A

Figures

Legend

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

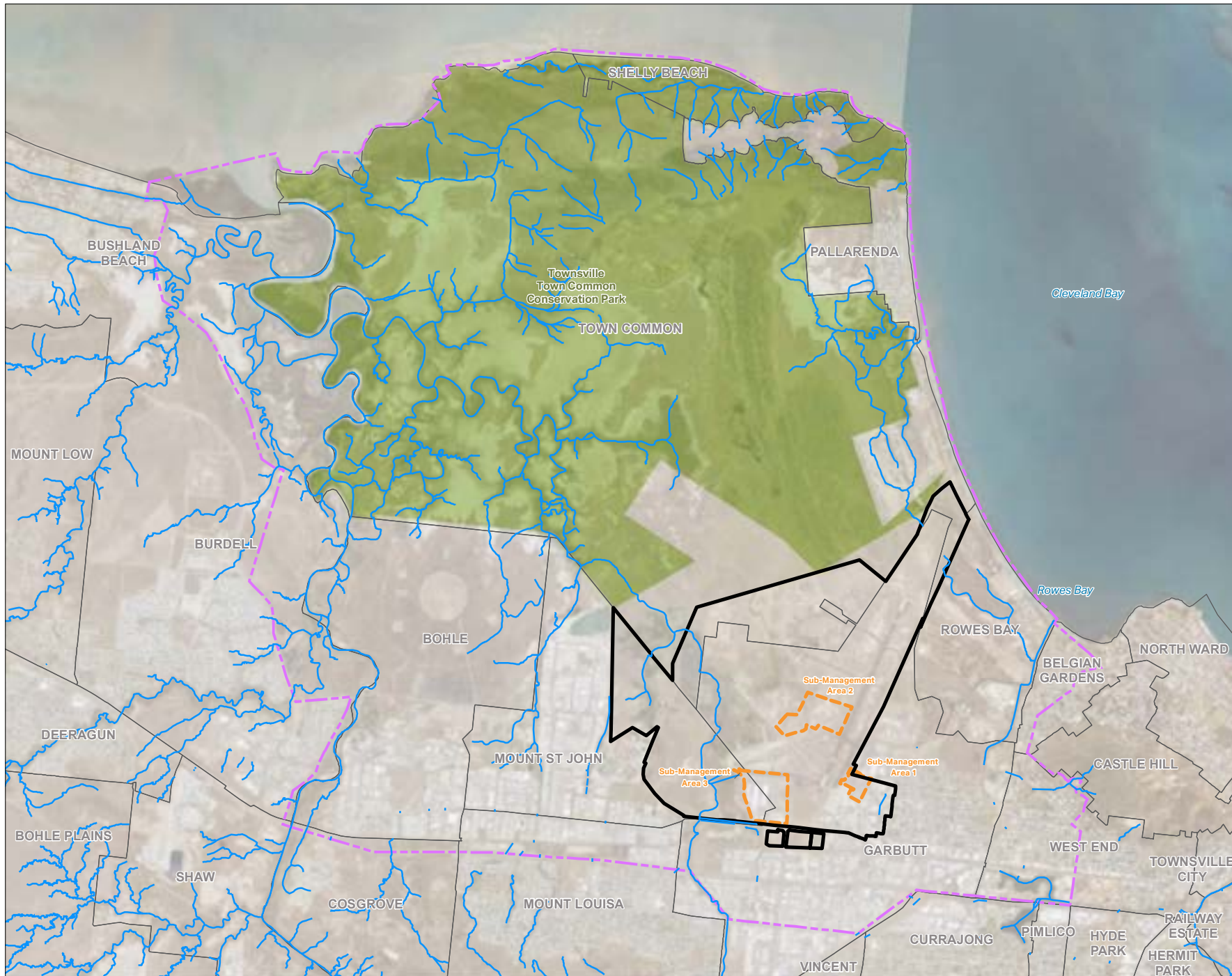


FIGURE 1:
RAAF BASE TOWNSVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

- Management
- Sub-Management Area
- Monitoring
- On-base Monitoring Well
- Off-base Monitoring Well
- Lost/Inaccessible Monitoring Well
- Historical monitoring location, no longer included in SAQP

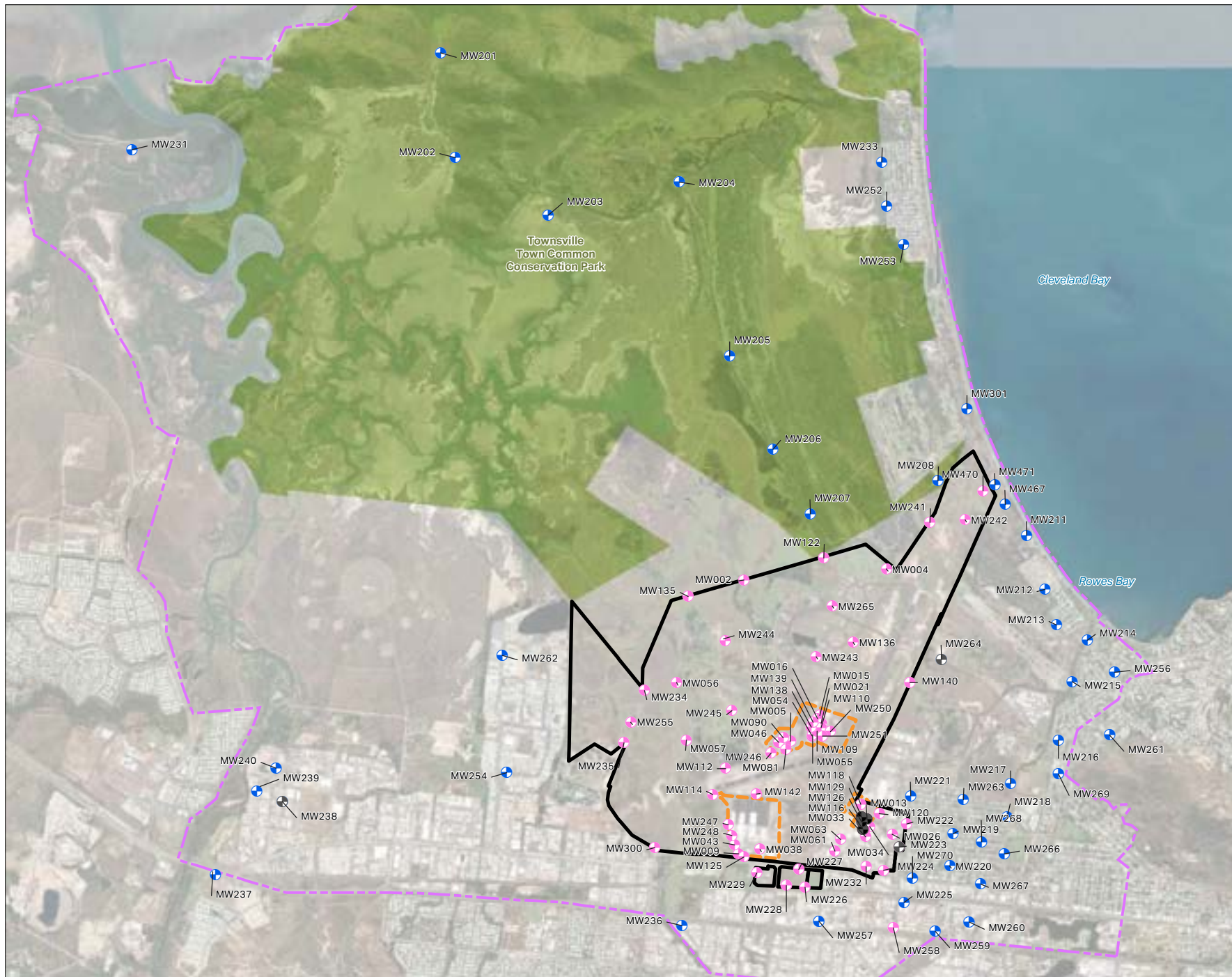
**FIGURE F2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.
Sources:
Base Data: (c) 2020 (ESRI), Digital Globe, GeoEye, Earthstar Geographic, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User



Legend

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

**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

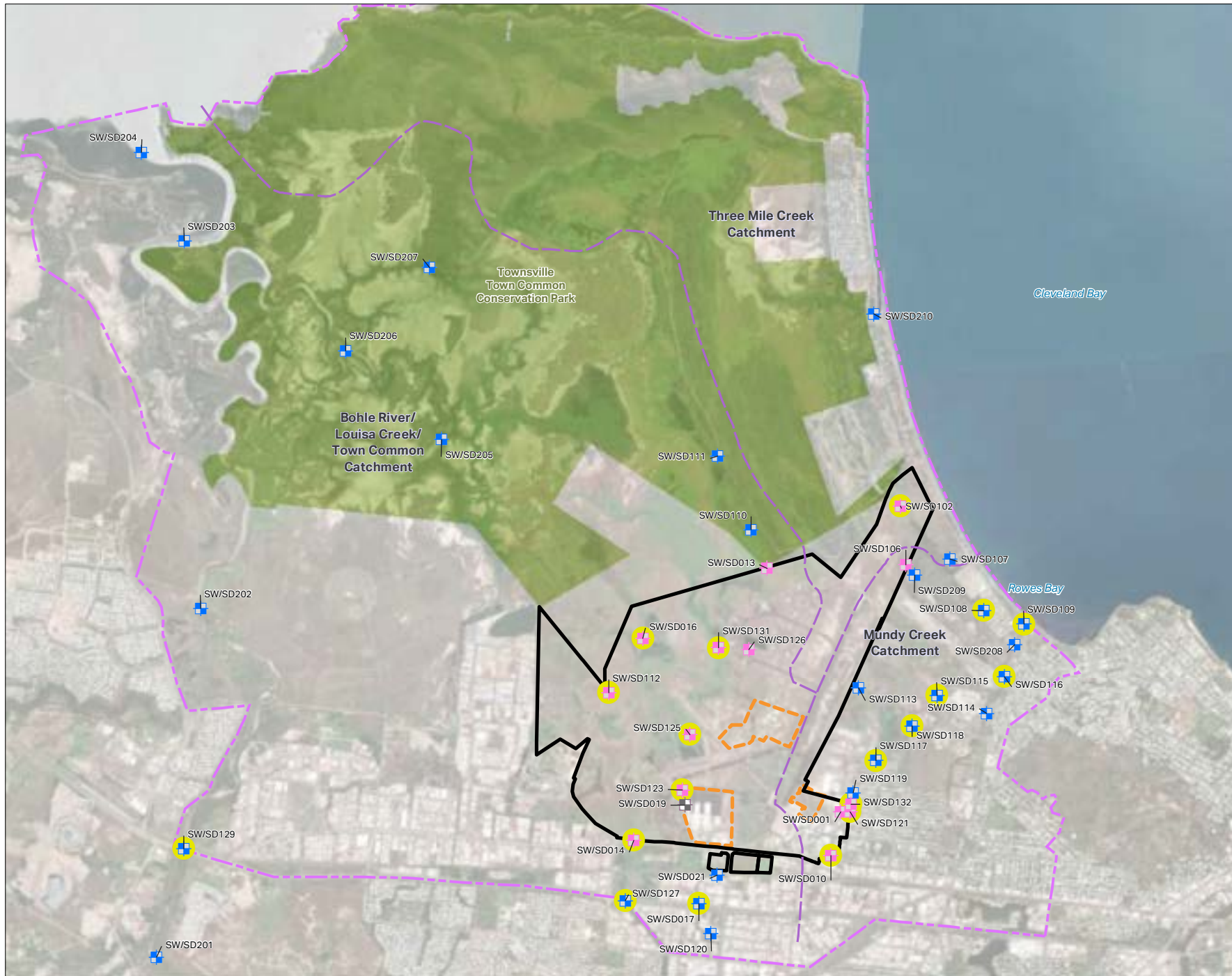
PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International License © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- ➔ Inferred Groundwater Flow Direction

Note: Groundwater gauging data collected on 14/03/2024

**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS -
OCTOBER 2023**

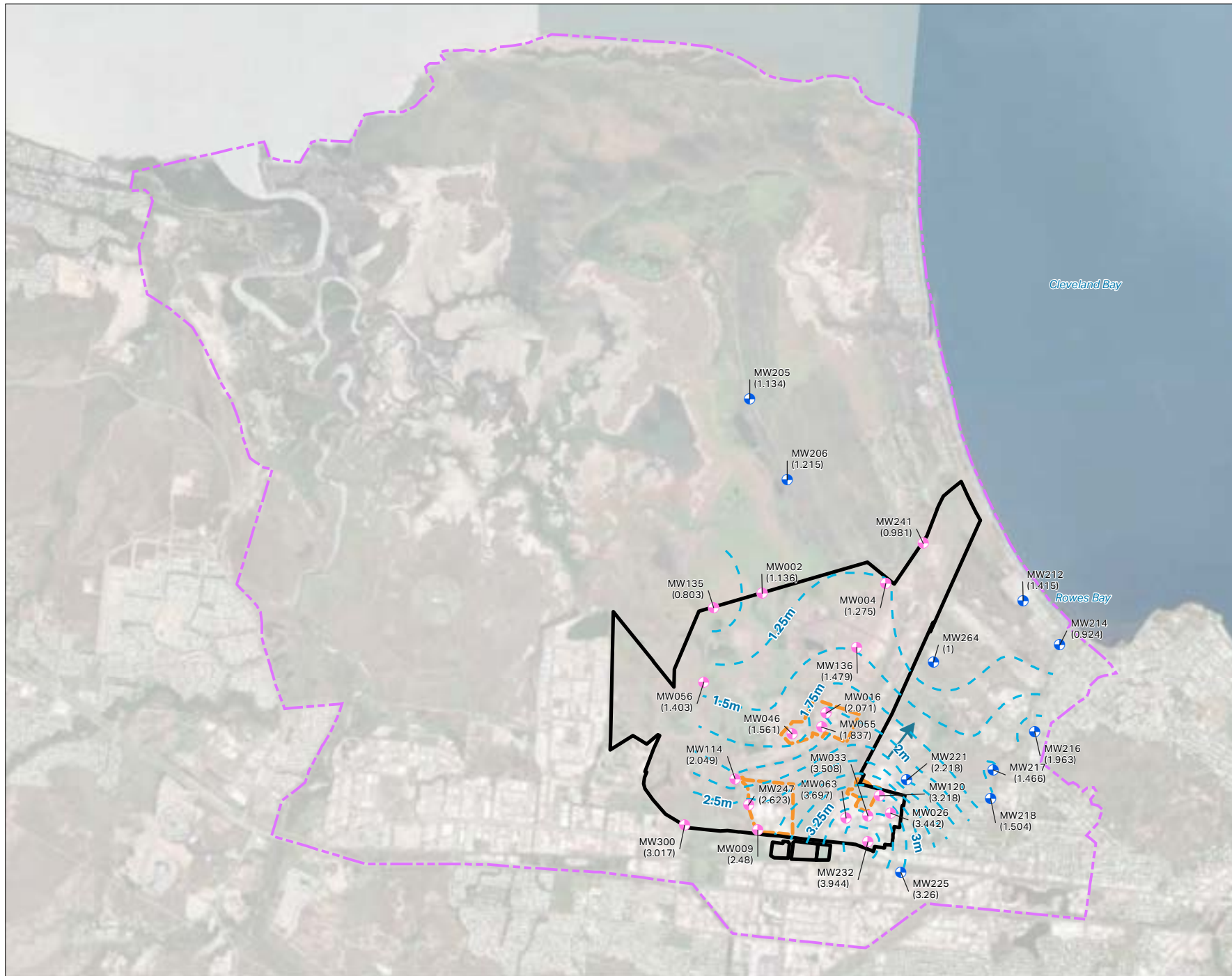
PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Lost/Inaccessible Monitoring Well
- Management Area
- Sub-Management Area
- Monitoring Area
- - - Groundwater contour (mAHd)
- ➔ Inferred Groundwater Flow Direction

Note: Groundwater gauging data collected on 14/03/2024

**FIGURE 5:
INFERRED
GROUNDWATER
CONTOURS -
MARCH 2024**

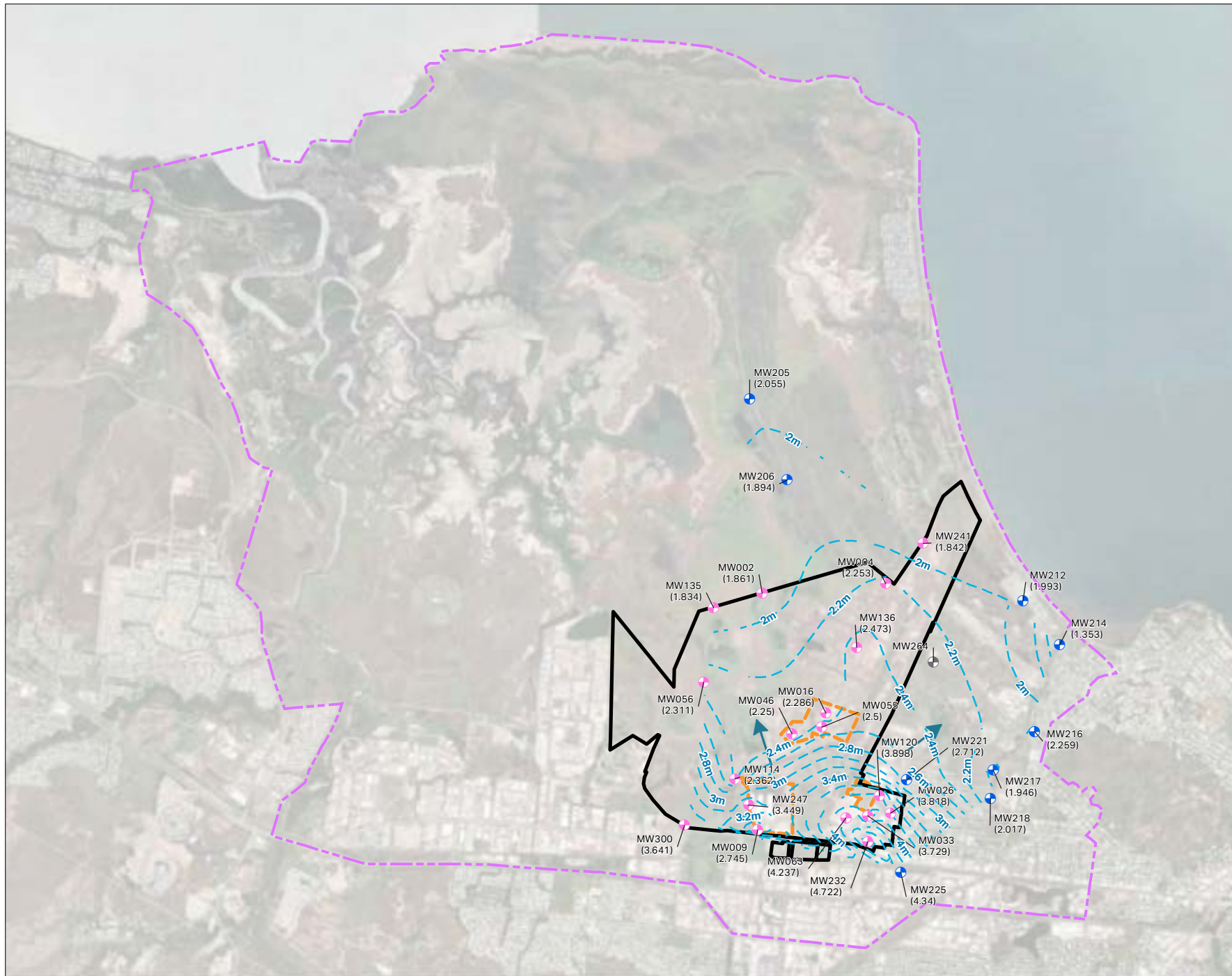
PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright License. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFHxS + PFOS (µg/L)

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

FIGURE 6a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2023

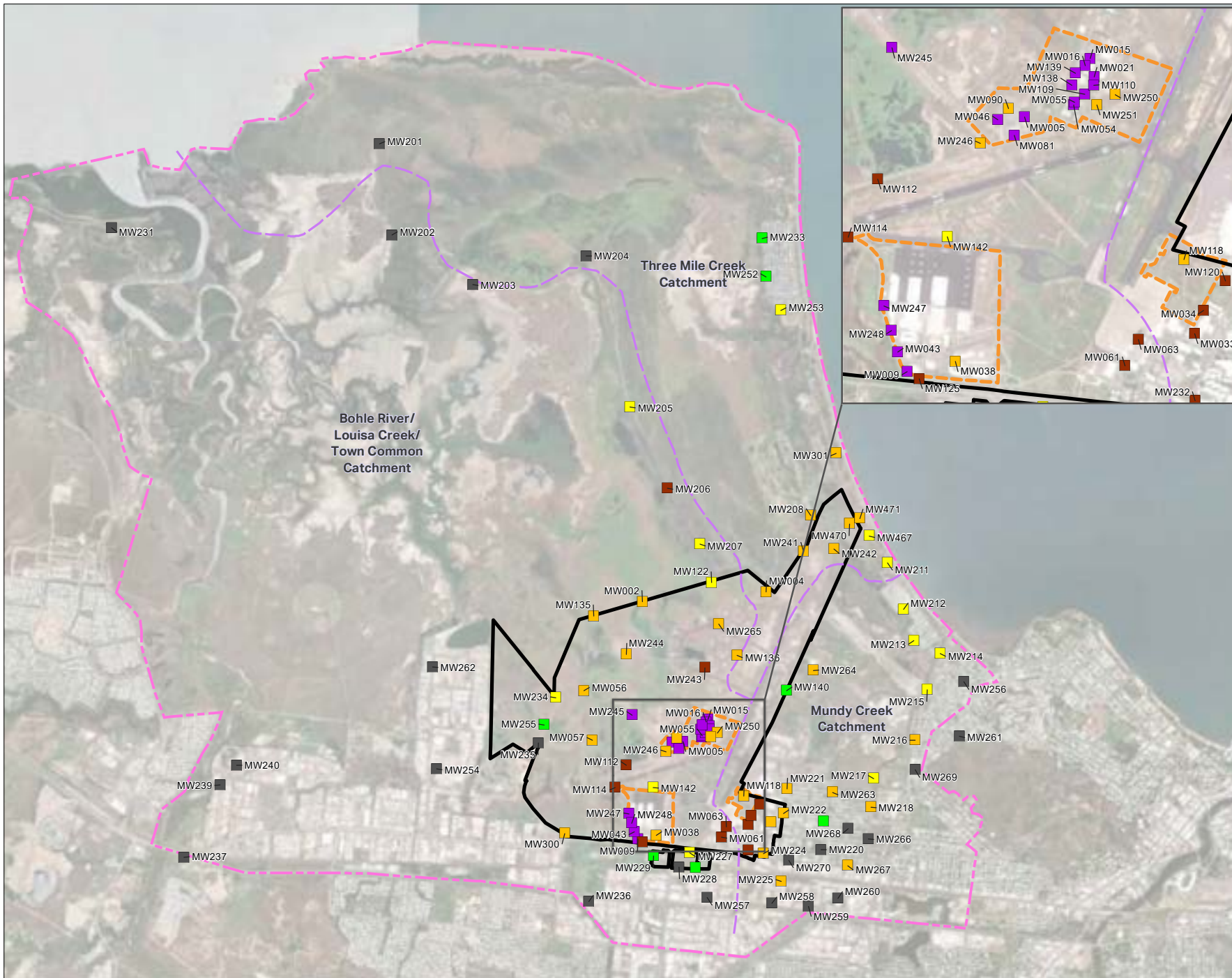
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

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

Concentration of PFOA (µg/L)

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

FIGURE 6b
GROUNDWATER
CONCENTRATION
OF PFOA –
OCTOBER 2023

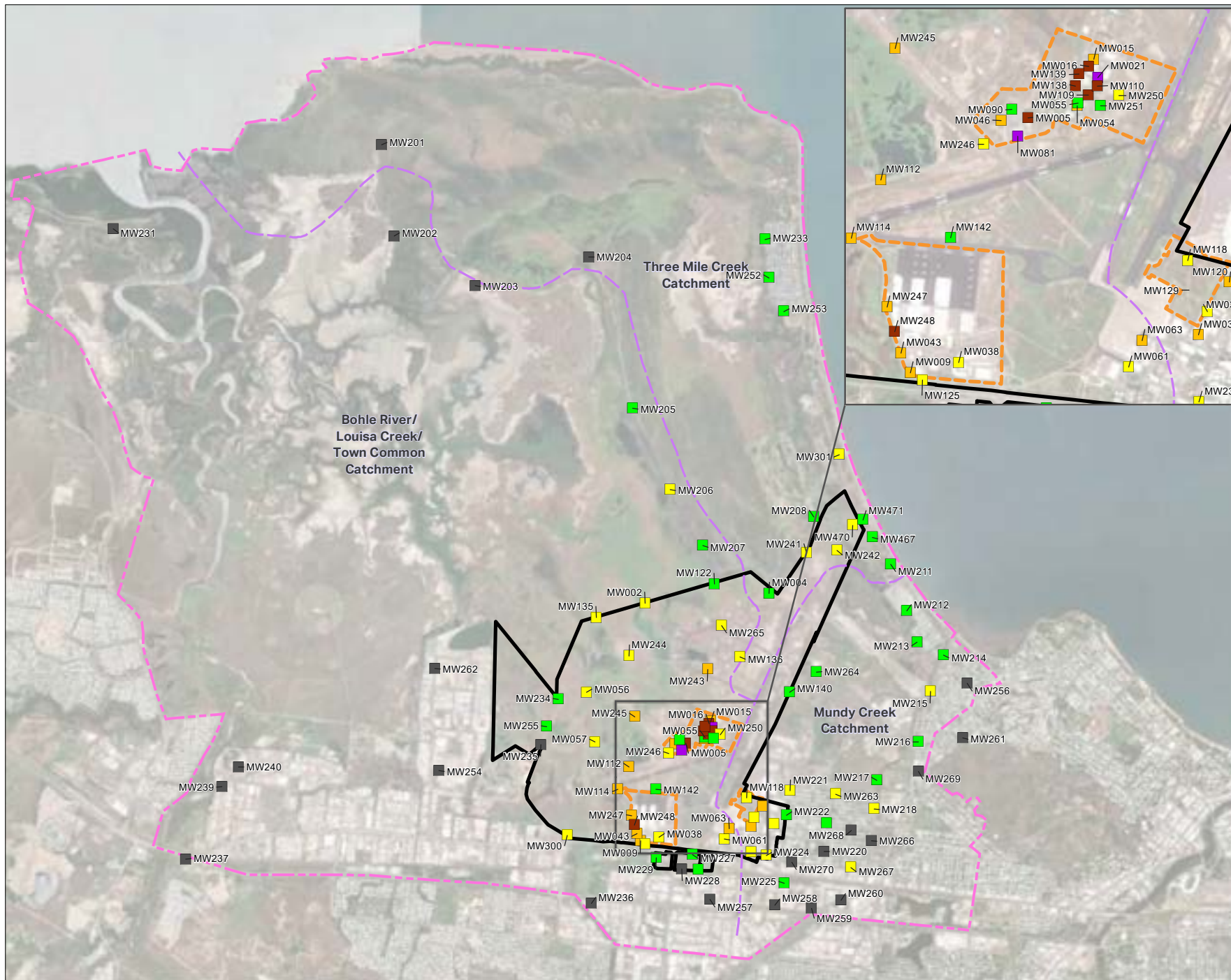
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFHxS + PFOS (µg/L)

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

FIGURE 7a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
MARCH 2024

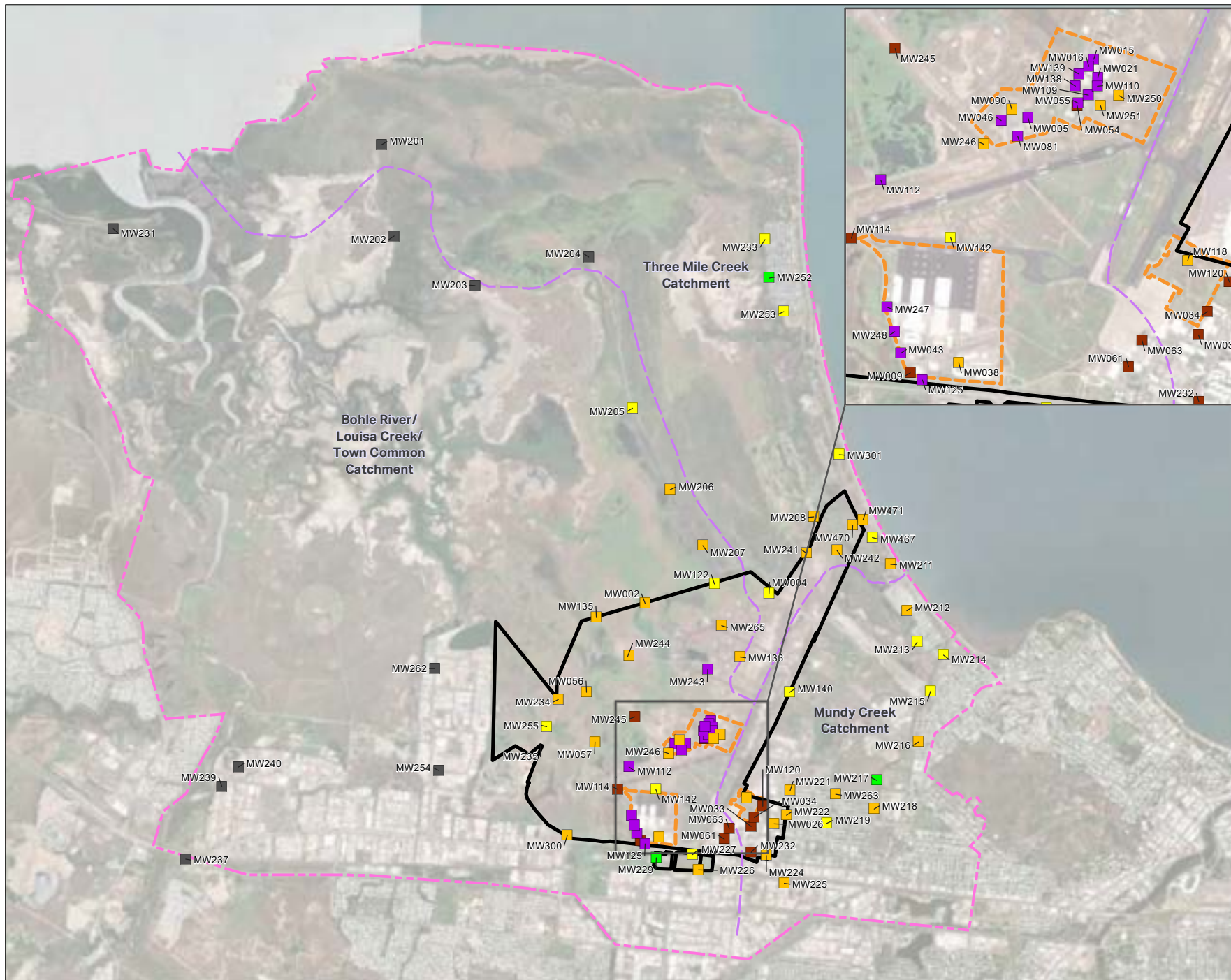
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFOA (µg/L)

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

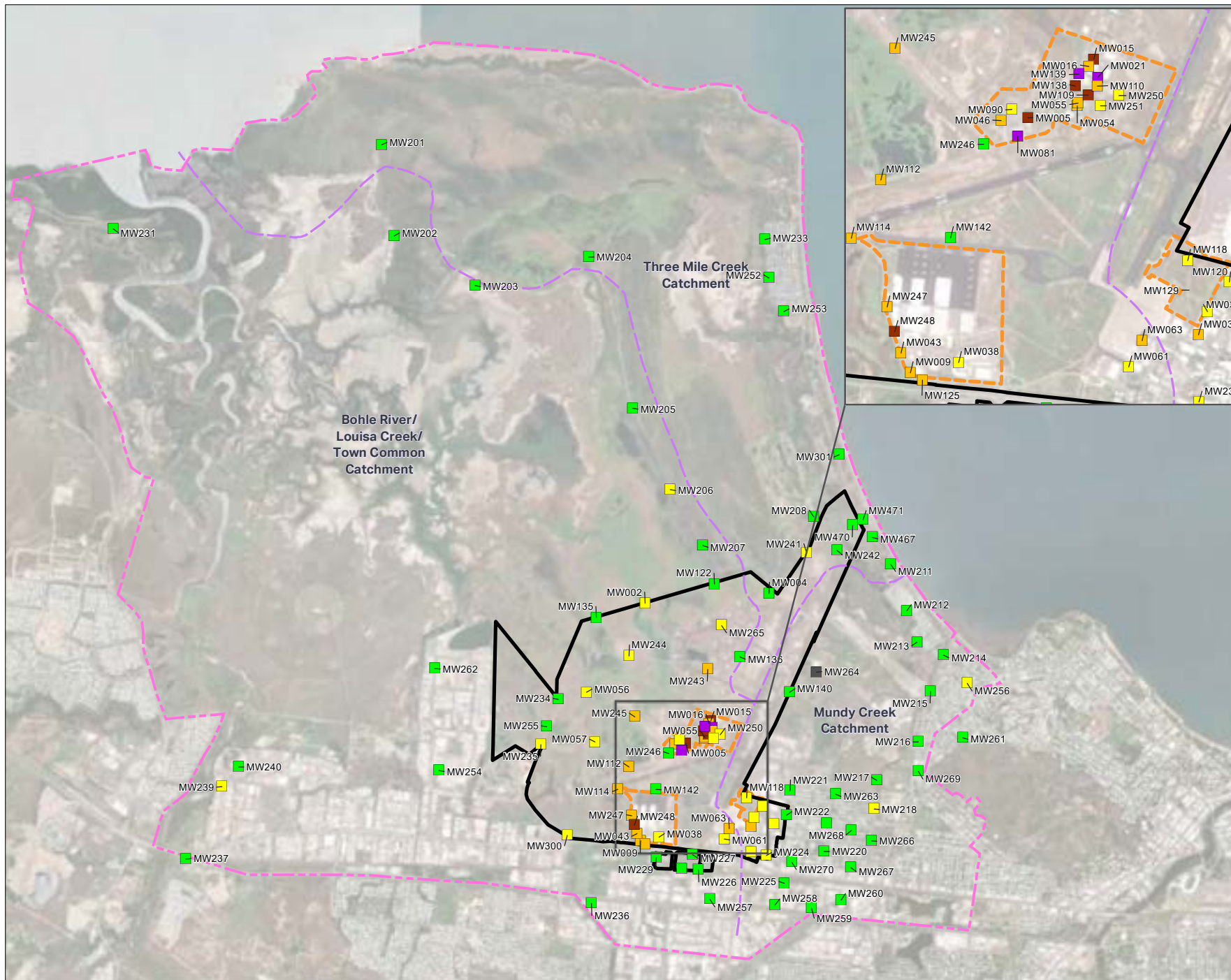
**FIGURE 7b
GROUNDWATER
CONCENTRATION
OF PFOA –
MARCH 2024**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report (June
2023 - March 2024) - RAAF Base
Townsville 0874
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.
Sources:
Base Data, (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS, IGN, etc.)
USDA, USGS, AeroGRID, IGN and the GIS User



Legend

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

Concentration of PFHxS + PFOS (µg/L)

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

FIGURE 8a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2023

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright License). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFOA (µg/L)

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

FIGURE 8b
SURFACE WATER
CONCENTRATION
OF PFOA -
OCTOBER 2023

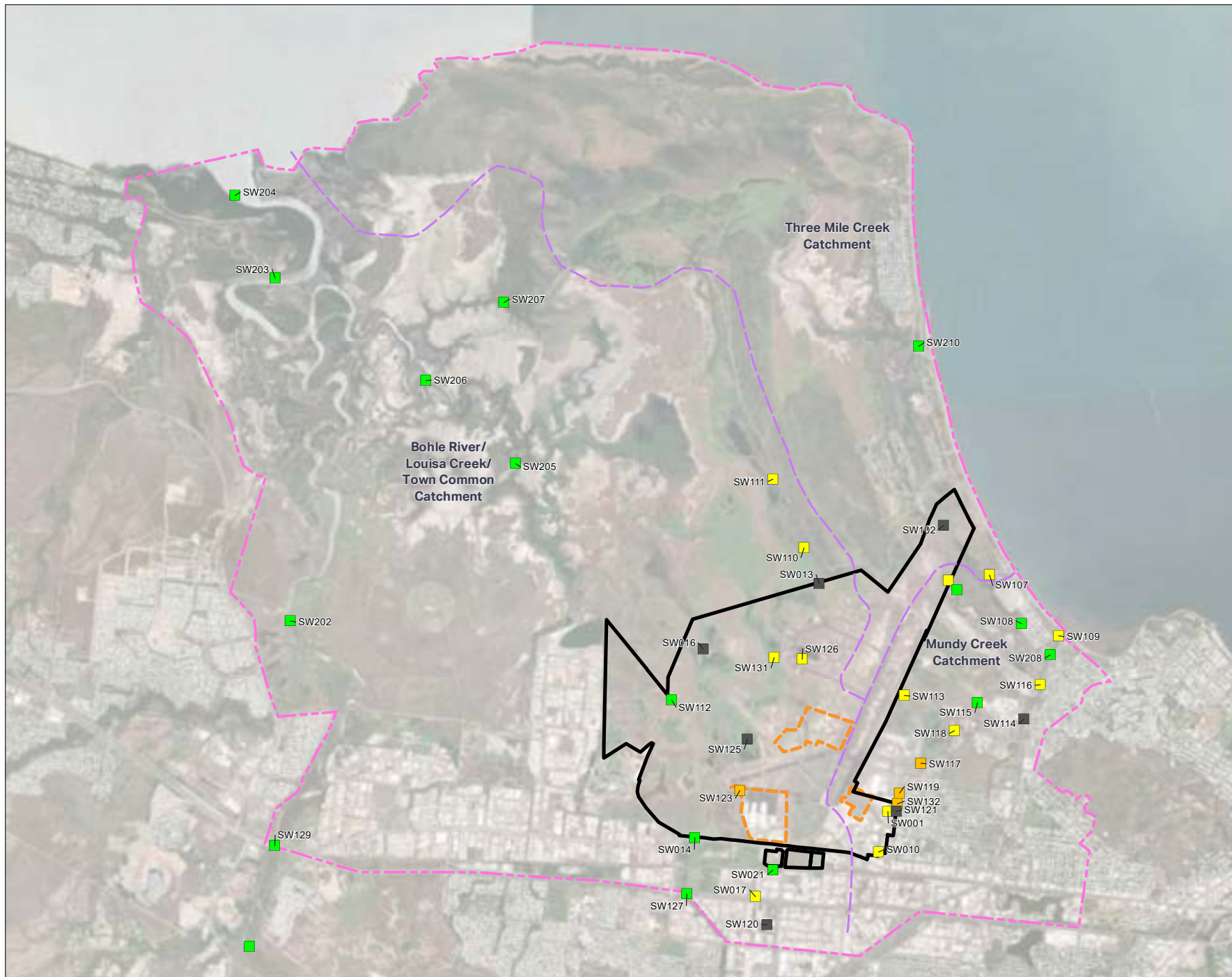
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFHxS + PFOS (µg/L)

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

FIGURE 9a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
JANUARY 2024

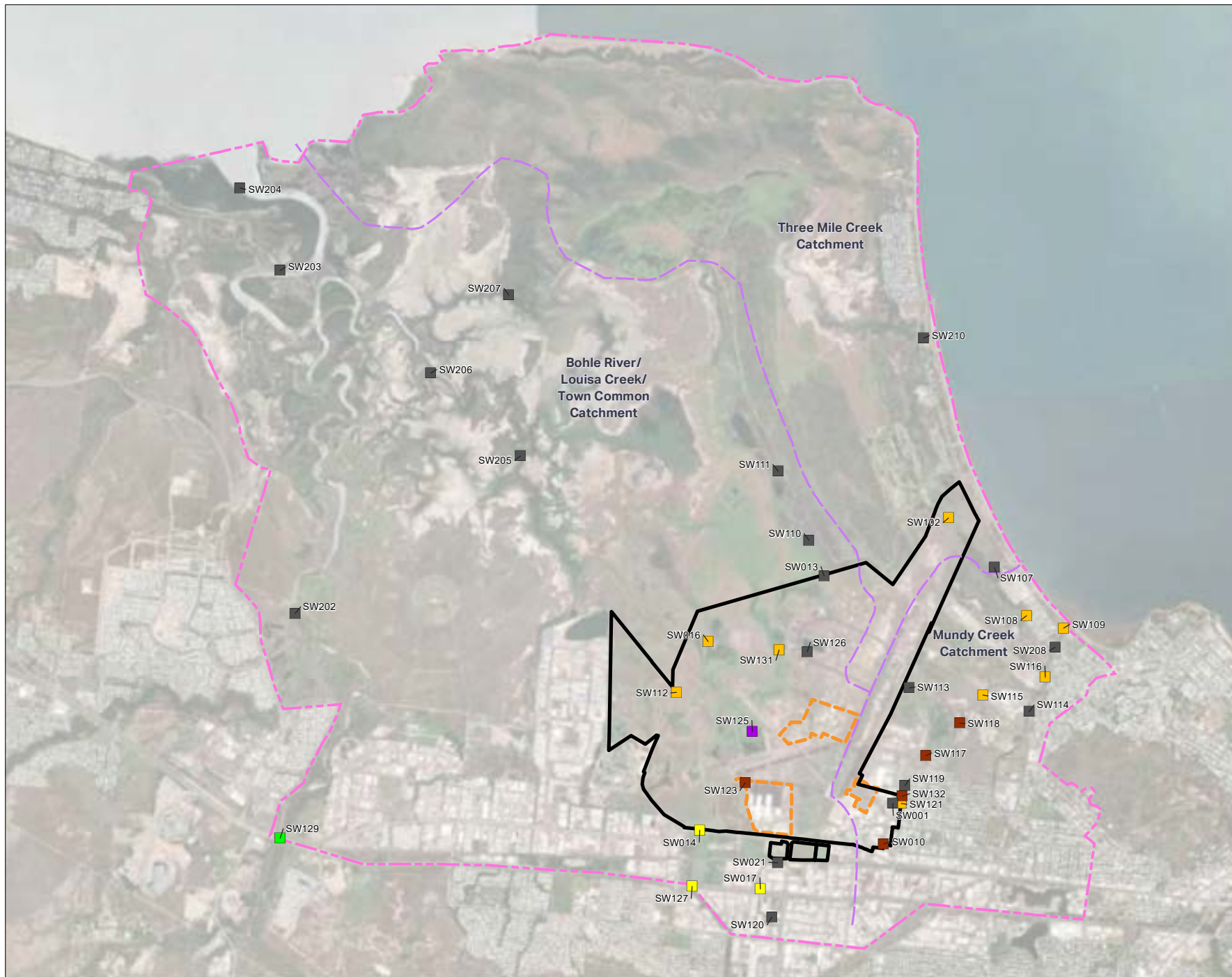
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright License. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFOA (µg/L)

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

FIGURE 9b
SURFACE WATER
CONCENTRATION
OF PFOA -
JANUARY 2024

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFHxS + PFOS (µg/L)

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

FIGURE 10a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
MARCH 2024

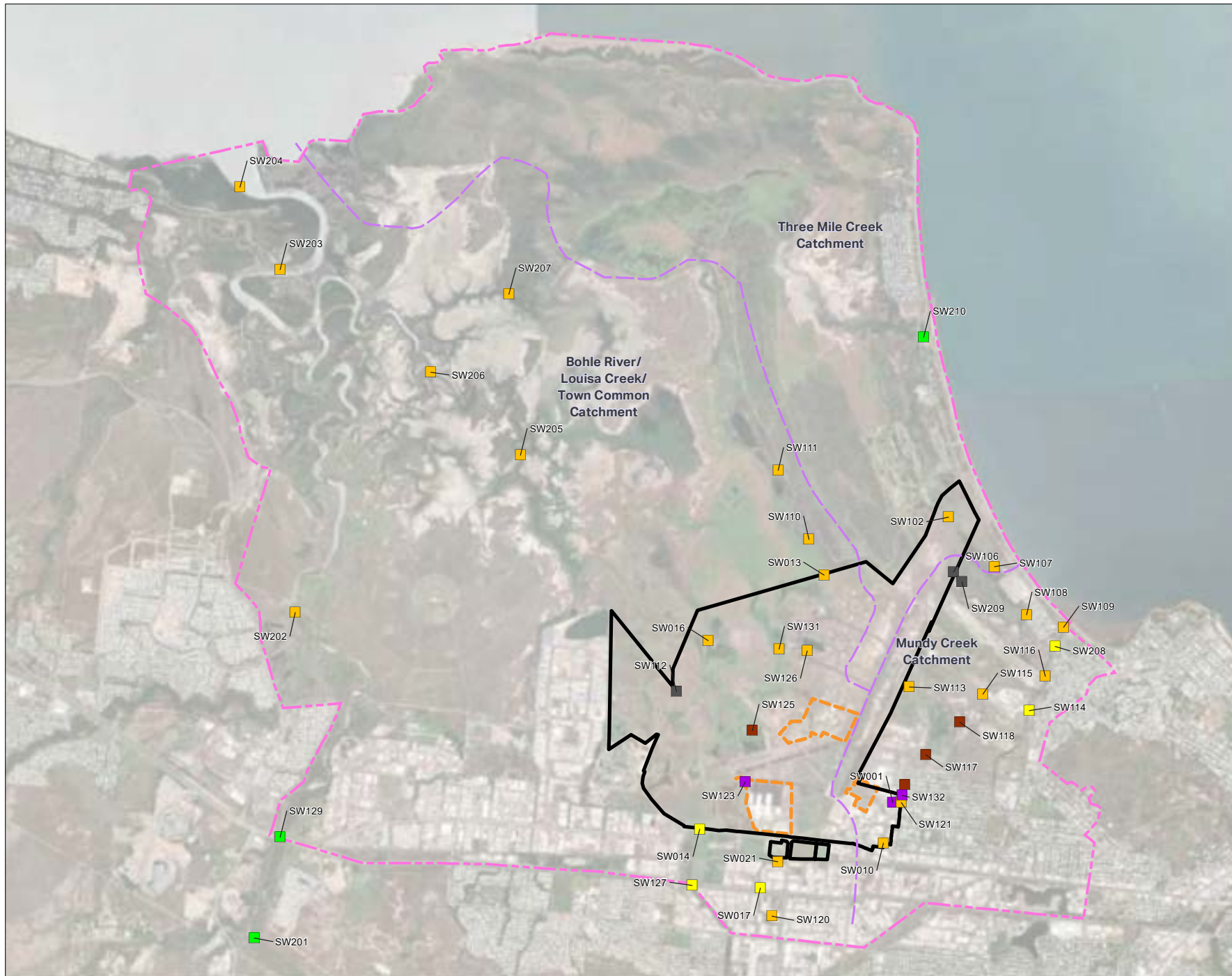
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFOA (µg/L)

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

FIGURE 10b
SURFACE WATER
CONCENTRATION
OF PFOA -
MARCH 2024

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

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

Concentration of PFHxS + PFOS (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR

FIGURE 11a
SEDIMENT
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2023

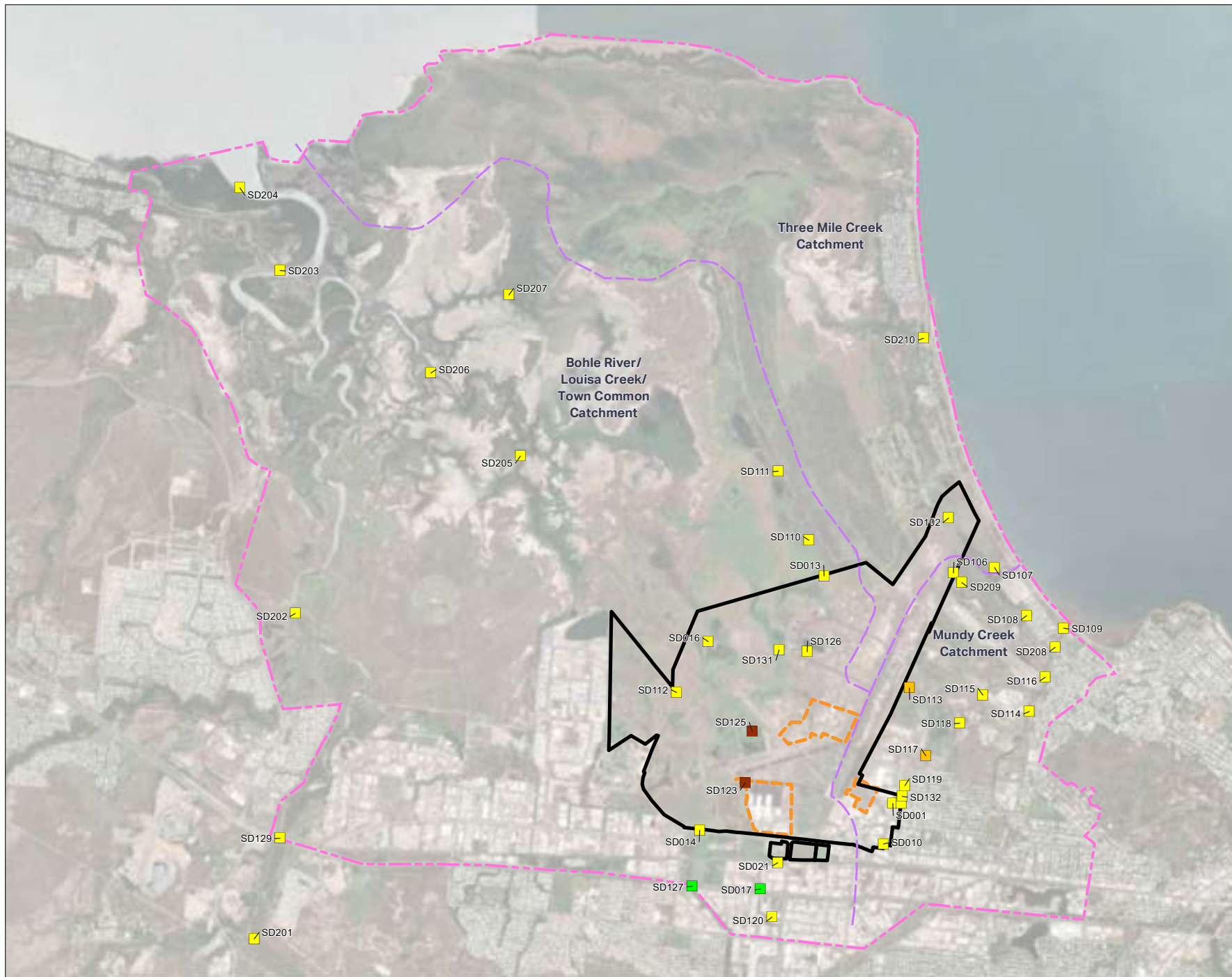
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright License(s). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

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

Concentration of PFOA (mg/kg)

- > 10 mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR

FIGURE 11b
SEDIMENT
CONCENTRATION
OF PFOA -
OCTOBER 2023

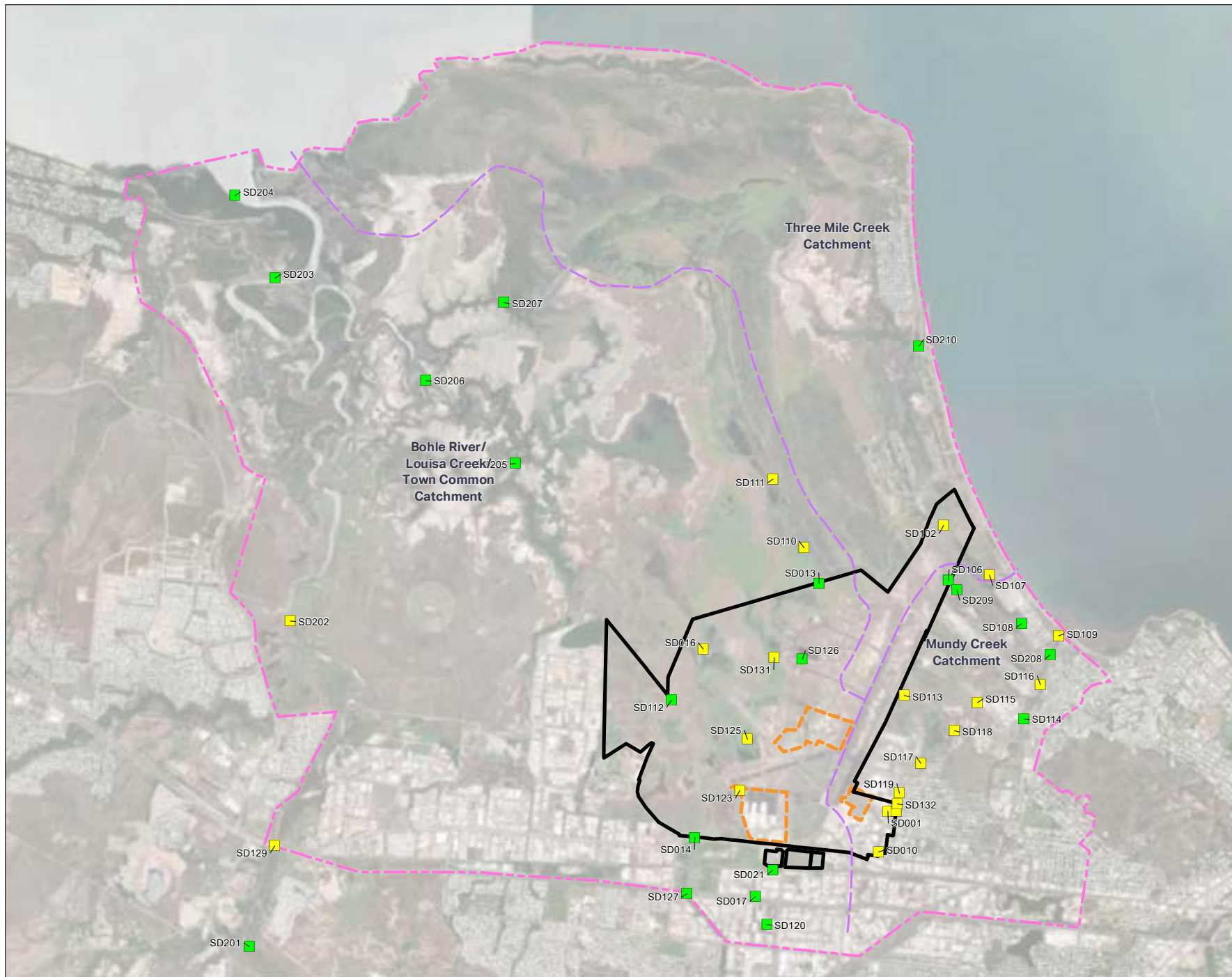
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

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

Concentration of PFHxS + PFOS (mg/kg)

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

FIGURE 12a
SEDIMENT
CONCENTRATION OF
PFOS+PFHxS –
MARCH 2024

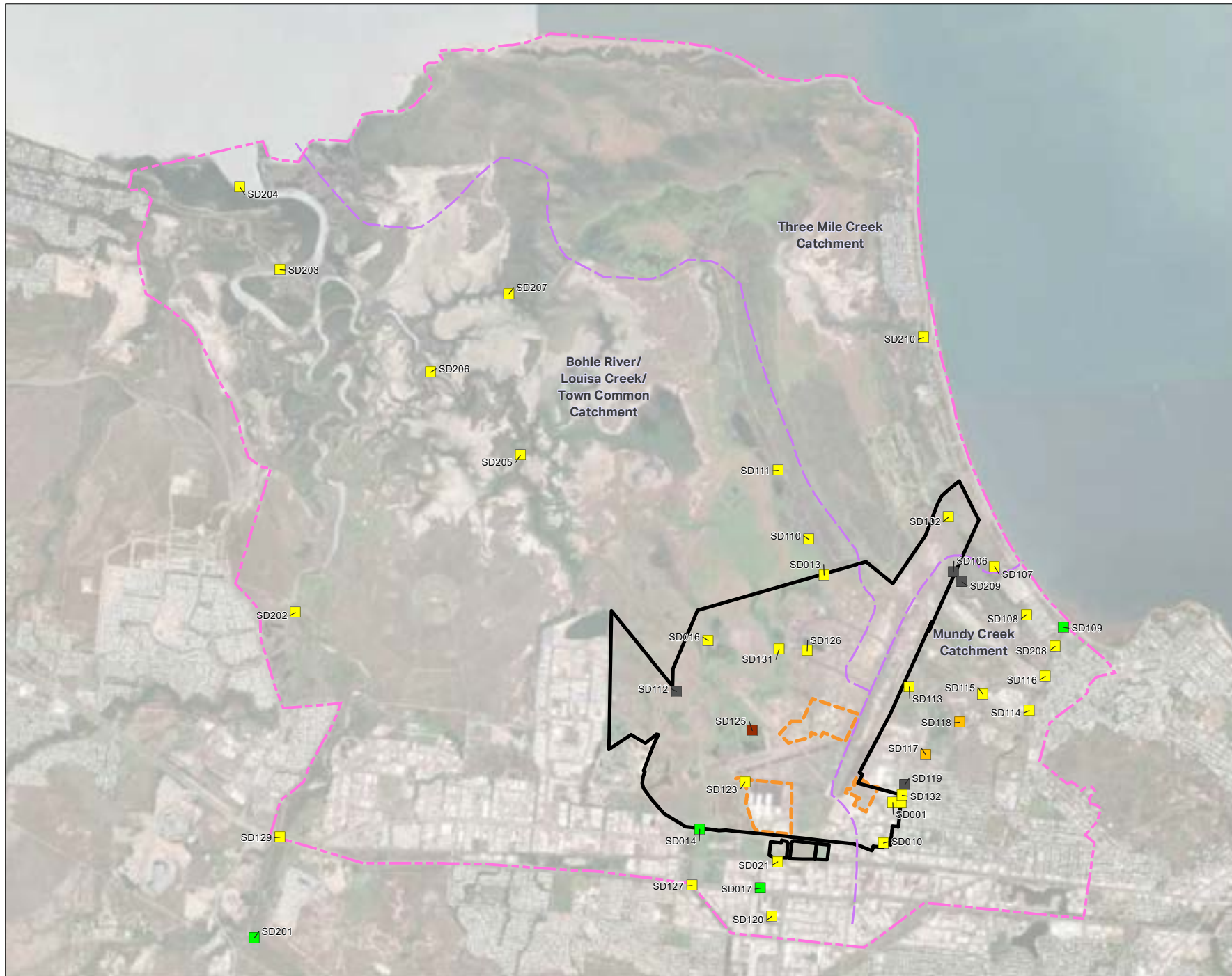
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright License). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

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

Concentration of PFOA (mg/kg)

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

FIGURE 12b
SEDIMENT
CONCENTRATION
OF PFOA -
MARCH 2024

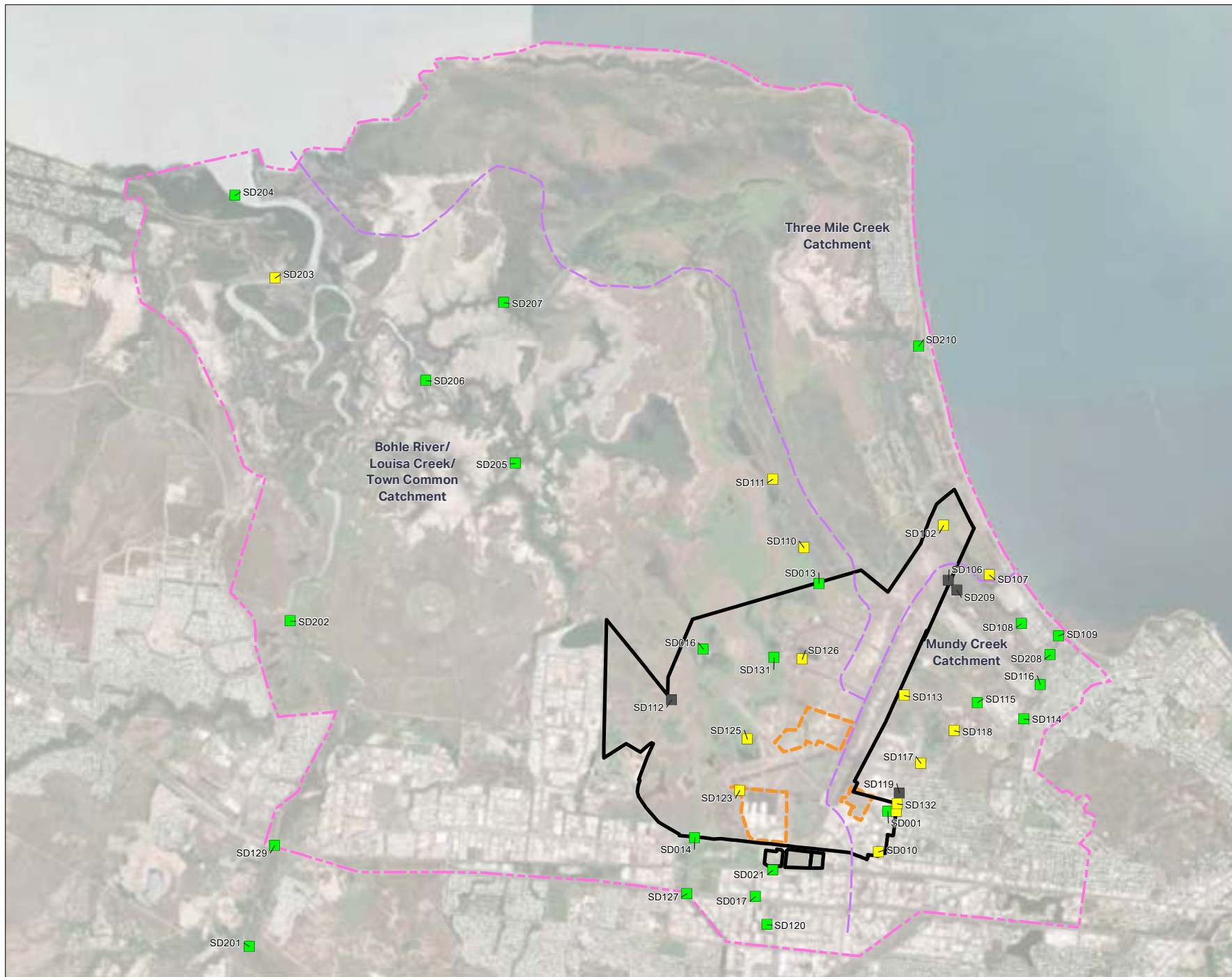
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Report (June 2023 - March 2024) - RAAF Base Townsville 0874
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Appendix B

Data Tables

T1: Groundwater Gauging

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Stick-up of Casing (m)	Depth to Water (mbtoc)	Depth to Water (mbgl)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)
0874	MW002	10/10/2023	10:00	4.655	-0.103	0.730	0.533	1.866	1.136
		14/03/2024	12:00	4.575	-0.103	0.905	0.108	1.866	1.861
		10/10/2023	09:46	5.020	0.403	1.906	1.503	3.181	1.275
0874	MW004	14/03/2024	12:25	4.913	0.403	0.928	0.525	3.181	2.253
		10/10/2023	11:10	4.775	-0.052	1.040	1.092	3.520	2.480
0874	MW009	14/03/2024	11:55	4.801	-0.052	0.775	0.827	3.520	2.745
		10/10/2023	14:21	3.536	-0.050	1.379	1.429	3.450	2.071
0874	MW016	14/03/2024	14:15	3.555	-0.050	1.164	1.214	3.450	2.286
		10/10/2023	12:16	4.865	-0.129	1.722	1.851	5.164	3.442
0874	MW026	14/03/2024	15:10	4.802	-0.129	1.346	1.475	5.164	3.818
		10/10/2023	12:43	3.895	0.135	2.352	2.217	5.860	3.508
0874	MW033	14/03/2024	13:50	3.932	0.135	2.131	1.996	5.860	3.729
		10/10/2023	13:51	4.410	0.290	1.283	0.993	2.844	1.561
0874	MW046	14/03/2024	15:30	4.444	0.290	0.594	0.304	2.844	2.250
		10/10/2023	14:05	4.896	-0.120	1.726	1.846	3.563	1.837
0874	MW055	14/03/2024	14:08	4.924	-0.120	1.063	1.183	3.563	2.500
		10/10/2023	10:27	5.415	0.803	1.552	0.749	2.955	1.403
0874	MW056	14/03/2024	13:08	5.430	0.803	0.644	-0.159	2.955	2.311
		10/10/2023	11:43	5.267	-0.110	1.156	1.265	4.852	3.697
0874	MW063	14/03/2024	14:15	5.331	-0.110	0.615	0.725	4.852	4.237
		10/10/2023	10:37	5.150	0.330	1.276	0.946	3.325	2.049
0874	MW114	14/03/2024	15:45	5.216	0.330	0.963	0.633	3.325	2.362
		10/10/2023	12:05	5.736	-0.140	1.331	1.471	4.549	3.218
0874	MW120	14/03/2024	14:43	5.691	-0.140	0.651	0.791	4.549	3.898
		10/10/2023	10:13	5.641	-0.104	1.472	1.576	2.275	0.803
0874	MW135	14/03/2024	11:25	5.579	-0.104	0.441	0.545	2.275	1.834
		10/10/2023	14:35	5.700	-0.210	1.344	1.554	2.823	1.479
0874	MW136	14/03/2024	15:10	5.660	-0.210	0.350	0.560	2.823	2.473
		10/10/2023	09:10	4.985	0.657	2.105	1.448	3.239	1.134
0874	MW205	14/03/2024	16:00	4.975	0.657	1.184	0.527	3.239	2.055
		10/10/2023	09:30	4.389	0.675	2.065	1.390	3.280	1.215
0874	MW206	14/03/2024	16:05	4.401	0.675	1.396	0.711	3.280	1.894
		10/10/2023	10:10	4.040	-0.146	1.420	1.566	2.835	1.415
0874	MW212	14/03/2024	16:45	3.920	-0.146	0.842	0.988	2.835	1.993
		10/10/2023	10:30	4.901	-0.151	2.739	2.890	3.663	0.924
0874	MW214	14/03/2024	11:50	4.920	-0.151	2.310	2.461	3.663	1.353
		10/10/2023	11:49	4.239	-0.136	1.581	1.717	3.544	1.963
0874	MW216	14/03/2024	11:30	4.250	-0.136	1.285	1.421	3.544	2.259
		10/10/2023	12:14	5.645	-0.098	1.805	1.903	3.271	1.466
0874	MW217	14/03/2024	11:00	5.770	-0.098	1.325	1.423	3.271	1.946
		10/10/2023	13:50	5.010	-0.129	1.404	1.533	2.908	1.504
0874	MW218	14/03/2024	10:30	5.005	-0.129	0.891	1.020	2.908	2.017
		10/10/2023	14:25	5.339	-0.116	1.595	1.711	3.813	2.218
0874	MW221	14/03/2024	10:10	5.410	-0.116	1.101	1.217	3.813	2.712
		10/10/2023	14:55	6.805	-0.125	2.325	2.450	5.585	3.260
0874	MW225	14/03/2024	09:45	6.824	-0.125	1.245	1.370	5.585	4.340
		10/10/2023	11:26	4.856	-0.120	1.823	1.943	5.767	3.944
0874	MW232	14/03/2024	12:10	4.655	-0.120	1.045	1.165	5.767	4.722
		10/10/2023	09:36	4.643	0.602	2.133	1.531	3.114	0.981
0874	MW241	14/03/2024	12:45	4.767	0.602	1.272	0.670	3.114	1.842
		10/10/2023	11:01	4.089	0.700	1.776	1.076	3.399	2.623
0874	MW247	14/03/2024	11:30	4.105	0.700	0.950	0.250	4.399	3.449
		10/10/2023	11:15	5.541	0.081	2.190	2.109	3.190	1.000
0874	MW264	14/03/2024				Lost / Destroyed - Road has been resurfaced since last visit			
		10/10/2023	08:56	6.693	0.640	2.053	1.413	5.070	3.017
0874	MW300	14/03/2024	10:30	6.725	0.640	1.429	0.789	5.070	3.641

mbtoc - metres below top of casing
mbgl - metres below ground level
TOC - top of casing
mAHD - metres above Australian Height Datum

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH	
Sub-Management Area 1											
MW013	17/08/2017	1.877	4.870	4.7080	2.831	1.16	27.4	330.0	10858	6.9	
	17/04/2018	1.145	4.872	4.7080	3.563	0.99	29.5	244.3	13280	6.7	
	18/12/2018	1.385	4.890	4.7080	3.323	2.55	31.2	590.3	6604	7.1	
	2/05/2019	1.256	4.872	4.7080	3.452	1.57	29.1	294.3	6431	7.1	
	15/10/2019	1.927	4.873	4.7080	2.781	1.91	27.6	450.1	7146	7.0	
	28/04/2020	2.930	4.569	4.7080	1.778	2.20	30.1	158.9	12016	7.0	
	10/09/2020	1.990	4.860	4.7080	2.718	1.84	26.3	298.2	18590	6.3	
	6/05/2021	1.140	4.860	4.7080	3.568	2.18	26.6	83.1	10369	6.4	
	11/10/2021	1.689	4.860	4.7080	3.019	2.65	27.4	316.4	10534	6.7	
	22/04/2022	1.505	4.870	4.7080	3.203	1.45	29.0	256.1	10665	6.7	
	19/10/2022	1.545	4.870	4.7080	3.163	0.73	26.9	199.8	11950	6.1	
	April 2023	Unable to locate well due to construction work - covered in soil									
October 2023	Unable to locate well due to construction work - covered in soil										
MW116	15/08/2017	1.755	4.410	5.2540	3.499	0.57	27.8	347.5	3394	6.7	
	17/04/2018	1.670	4.330	5.2540	3.584	0.78	30.0	243.2	8917	7.0	
	18/12/2018	1.629	4.330	5.2540	3.625	2.06	31.6	572.1	681	7.1	
	2/05/2019	1.690	4.330	5.2540	3.564	0.56	29.5	306.1	9252	6.7	
	15/10/2019	1.774	4.316	5.2540	3.480	0.93	28.3	413.8	2266	6.5	
	28/04/2020	1.695	4.267	5.2540	3.559	3.44	32.6	170.1	54.2	7.5	
	11/09/2020	1.755	4.260	5.2540	3.499	3.26	27.3	327.4	4596	6.3	
	29/04/2021	1.625	4.270	5.2540	3.629	2.05	29.0	175.1	11698	6.4	
	11/10/2021	2.733	4.270	5.2540	2.521	2.50	27.9	113.9	6502	6.9	
	21/04/2022	1.852	4.640	5.2540	3.402	2.43	30.6	260.8	14963	6.6	
	12/10/2022	Well Decommissioned									
	MW118	17/08/2017	1.375	4.550	4.3700	2.995	3.09	29.4	210.0	742	7.6
17/04/2018		0.795	4.595	4.3700	3.575	0.67	30.2	74.0	653	6.9	
18/12/2018		1.125	4.605	4.3700	3.245	0.70	32.8	414.1	684	7.2	
2/05/2019		0.823	4.595	4.3700	3.547	0.73	29.7	167.6	1057	7.8	
15/10/2019		1.416	4.620	4.3700	2.954	0.68	29.7	190.2	1127	6.8	
29/04/2020		1.022	4.604	4.3700	3.348	2.80	31.1	33.2	912	6.9	
10/09/2020		1.374	4.600	4.3700	2.996	2.55	27.3	315.8	1603	6.9	
21/04/2021		0.773	4.600	4.4880	3.715	2.92	29.7	112.8	4059	7.1	
11/10/2021		1.399	4.600	4.4880	3.089	2.63	29.2	59.8	1299	7.1	
20/04/2022		1.240	4.570	4.4880	3.248	2.46	31.8	254.3	641	6.9	
12/10/2022		1.280	4.570	4.4880	3.208	0.20	27.2	74.8	985	7.8	
28/04/2023		0.673	4.520	4.4880	3.815	2.97	29.3	131.0	877	6.7	
9/10/2023		1.299	4.561	4.3700	3.071	2.77	27.8	103.5	1461	6.7	
15/03/2024	0.532	4.601	4.3700	3.838	0.85	29.4	262.1	578	6.9		
MW126	15/08/2017	1.598	5.963	4.8690	3.271	1.28	27.8	320.2	551	7.5	
	17/04/2018	1.140	5.985	4.8690	3.729	1.69	29.8	223.0	455.5	7.1	
	18/12/2018	1.170	5.980	4.8690	3.699	1.96	31.0	547.9	524	8.0	
	2/05/2019	1.160	5.985	4.8690	3.709	2.70	29.3	252.2	557	7.6	
	15/10/2019	1.681	5.982	4.8690	3.188	0.60	28.6	386.9	529	7.4	
	28/04/2020	1.236	5.956	4.8690	3.633	1.47	30.9	47.8	762	7.6	
	23/09/2020	1.650	5.900	4.8690	3.219	2.13	28.6	285.2	548	7.4	
	29/04/2021	1.093	5.930	4.8690	3.776	2.11	29.0	69.8	666	7.4	
	11/10/2021	1.626	5.930	4.8690	3.243	2.45	28.2	50.3	956	7.7	
	22/04/2022	1.229	5.670	4.8690	3.640	5.85	26.9	359.5	86	6.6	
	12/10/2022	Well Decommissioned									
	MW129	16/08/2017	1.465	5.987	4.6480	3.183	2.10	28.2	309.0	350	7.0
17/04/2018		0.925	5.970	4.6480	3.723	1.66	30.2	209.8	282	7.3	
18/12/2018		1.062	5.965	4.6480	3.586	2.92	32.8	571.2	445	7.5	
2/05/2019		1.190	4.900	4.6480	3.458	0.76	28.6	297.3	2224	7.4	
15/10/2019		1.373	4.860	4.6480	3.275	1.40	28.4	424.4	343.4	7.5	
29/04/2020		1.053	5.935	4.6480	3.595	0.51	29.3	191.0	671	6.6	
10/09/2020		1.511	5.930	4.6480	3.137	2.51	27.3	301.2	932	6.7	
21/04/2021		0.738	5.930	4.6480	3.910	3.69	29.5	197.4	425.4	7.1	
11/10/2021		1.517	5.930	4.6480	3.131	1.84	28.4	146.8	664	7.1	
20/04/2022		1.365	5.910	4.6480	3.283	5.98	28.6	224.8	1349	6.6	
12/10/2022	Well Decommissioned										
Sub-Management Area 2											
MW005	16/08/2017	2.703	7.536	3.9220	1.219	1.08	27.0	210.3	69258	6.7	
	16/04/2018	2.292	7.515	3.9220	1.630	0.59	30.8	268.3	83451	6.5	
	20/12/2018	2.090	7.520	3.9220	1.832	1.00	30.0	355.0	78670	6.9	
	30/04/2019	2.140	7.515	3.9220	1.782	1.51	28.2	280.4	11682	6.8	
	16/10/2019	2.513	7.529	3.9220	1.409	1.30	27.3	357.2	60834	6.5	
	27/04/2020	1.996	5.709	3.9220	1.926	1.53	30.2	173.3	69698	6.7	
	7/09/2020	2.116	7.510	3.9220	1.806	4.46	27.7	59.5	65619	7.2	
	29/04/2021	1.610	7.460	3.9220	2.312	2.46	28.0	131.1	39773	6.7	
	14/10/2021	2.221	7.460	3.9220	1.701	3.26	29.3	341.7	62439	7.0	
	20/04/2022	2.015	5.720	3.9220	1.907	4.77	26.8	177.9	64130	6.6	
	11/10/2022	2.272	5.720	3.9220	1.650	1.51	28.4	324.1	70485	7.4	
	26/04/2023	1.694	5.720	3.9220	2.228	2.37	27.7	255.3	71314	6.7	
	11/10/2023	2.439	7.436	3.9220	1.483	1.82	28.1	232.1	75114	6.8	
	13/03/2024	0.654	7.413	3.9220	3.268	0.40	28.6	209.3	7762	6.7	
MW015	16/08/2017	1.429	3.408	3.3430	1.914	0.98	28.9	181.3	10394	6.9	
	16/04/2018	1.261	3.400	3.3430	2.082	NR	30.2	274.2	33478	6.2	
	19/12/2018	1.032	3.413	3.3430	2.311	1.23	32.5	560.4	20425	6.4	
	30/04/2019	1.255	3.400	3.3430	2.088	0.88	28.8	398.3	35561	6.1	
	16/10/2019	1.393	3.412	3.3430	1.950	2.30	28.6	402.4	6407	7.0	
	30/04/2020	1.287	3.404	3.3430	2.056	1.91	29.1	247.8	39166	6.1	
	7/09/2020	1.315	3.410	3.3430	2.028	1.94	26.8	12.0	18180	6.9	
	29/04/2021	1.191	3.400	3.3430	2.152	2.81	29.2	140.6	28726	6.1	
	12/10/2021	1.411	3.400	3.3430	1.932	1.85	28.6	178.2	8208	6.7	
	21/04/2022	1.312	3.400	3.3430	2.031	3.07	29.6	148.7	19492	6.7	
	11/10/2022	1.370	3.400	3.3430	1.973	1.03	27.0	293.5	5748	7.9	
	27/04/2023	1.183	3.407	3.3430	2.160	3.48	33.4	449.9	36880	5.9	
	11/10/2023	1.343	3.390	3.3430	2.000	3.74	29.6	259.6	5442	7.3	
	17/11/2023	1.473	3.400	3.3430	1.870	3.43	30.0	434.0	6127	6.9	
	19/03/2024	1.198	3.387	3.3430	2.145	1.08	33.0	161.8	28351	6.4	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW016	16/08/2017	1.374	3.552	3.4500	2.076	0.69	30.9	149.8	17906	6.4
	16/04/2018	1.238	3.550	3.4500	2.212	NR	32.6	178.6	18250	6.5
	19/12/2018	0.995	3.555	3.4500	2.455	2.24	33.3	457.3	4128	6.9
	30/04/2019	1.208	3.550	3.4500	2.242	4.37	30.5	159.4	16483	6.3
	16/10/2019	1.393	3.556	3.4500	2.057	1.57	31.8	154.1	11058	6.4
	30/04/2020	1.192	3.548	3.4500	2.258	1.52	31.3	163.0	17240	6.4
	7/09/2020	1.267	3.550	3.4500	2.183	1.84	28.7	13.8	9388	6.7
	29/04/2021	1.176	3.550	3.4500	2.274	2.69	31.6	84.0	13596	6.4
	12/10/2021	1.346	3.550	3.4500	2.104	1.48	30.2	102.6	11056	6.3
	21/04/2022	1.266	3.550	3.4500	2.184	1.87	31.3	109.2	16582	6.5
	10/10/2022	1.352	3.550	3.4500	2.098	1.08	29.6	103.8	6922	7.6
	27/04/2023	1.167	3.543	3.4500	2.283	2.76	34.2	136.8	12394	6.5
	10/10/2023	1.378	3.536	3.4500	2.072	-	30.4	117.8	6323	6.8
14/03/2024	1.164	3.555	3.4500	2.286	0.76	33.6	206.8	11991	6.4	
MW021	16/08/2017	1.197	3.210	3.3010	2.104	1.45	30.4	156.2	5874	7.3
	16/04/2018	1.083	3.210	3.3010	2.218	1.40	32.2	225.5	2153	7.8
	19/12/2018	0.893	3.220	3.3010	2.408	0.73	33.1	497.7	1738	8.3
	30/04/2019	1.070	3.210	3.3010	2.231	0.83	30.3	119.3	1416	7.8
	16/10/2019	1.225	3.215	3.3010	2.076	0.79	30.6	217.5	1584	7.2
	30/04/2020	1.177	3.250	3.3010	2.124	1.45	32.5	149.7	16677	7.0
	7/09/2020	1.196	3.250	3.3010	2.105	2.25	27.9	24.1	13468	6.9
	29/04/2021	0.995	3.250	3.3010	2.306	1.72	30.8	42.9	12265	6.8
	12/10/2021	1.392	3.250	3.3010	1.909	2.06	30.1	125.7	13913	6.7
	21/04/2022	1.249	3.250	3.3010	2.052	2.26	31.6	112.8	11282	6.9
	11/10/2022	1.320	3.250	3.3010	1.981	0.57	28.8	279.6	11409	7.6
	27/04/2023	0.996	3.260	3.3010	2.305	2.55	33.9	229.4	8624	6.9
	11/10/2023	1.385	3.244	3.3010	1.916	2.23	30.3	148.1	9850	7.0
	17/11/2023	1.498	3.250	3.3010	1.803	2.96	33.3	130.9	11260	7.0
19/03/2024	1.006	2.235	3.3010	2.295	0.91	34.8	30.9	9557	7.2	
MW046	16/08/2017	1.316	4.425	2.8440	1.528	1.89	24.2	206.4	9597	7.4
	16/04/2018	0.861	4.410	2.8440	1.983	NR	28.1	275.3	11375	7.6
	20/12/2018	1.100	4.425	2.8440	1.744	1.36	28.8	314.3	14196	7.3
	30/04/2019	1.700	4.410	2.8440	1.144	1.02	27.5	263.5	12425	7.6
	16/10/2019	1.410	4.426	2.8440	1.434	0.34	27.4	414.1	11087	7.1
	27/04/2020	1.126	4.420	2.8440	1.718	1.93	30.0	129.4	15644	7.5
	7/09/2020	1.109	4.430	2.8440	1.735	2.06	26.3	25.6	13813	7.8
	28/04/2021	0.301	4.420	2.8440	2.543	1.40	28.1	89.9	11726	7.5
	11/10/2021	1.166	4.420	2.8440	1.678	1.33	27.9	178.3	10625	7.5
	20/04/2022	1.048	4.420	2.8440	1.796	1.57	28.1	296.4	8789	7.5
	10/10/2022	1.190	4.420	2.8440	1.654	0.32	26.1	287.2	9186	8.1
	26/04/2023	0.692	4.420	2.8440	2.152	4.03	29.2	236.5	4962	7.7
	10/10/2023	1.268	4.410	2.8440	1.576	2.88	26.5	263.8	7715	7.7
	14/03/2024	0.594	4.444	2.8440	2.250	0.54	30.1	202.9	9526	7.6
MW054	15/08/2017	1.690	5.620	3.6690	1.979	3.46	28.4	286.6	2963	8.3
	16/04/2018	1.109	5.620	3.6690	2.560	1.19	30.8	238.7	5663	8.1
	18/12/2018	1.337	5.541	3.6690	2.332	2.12	31.8	520.3	1553	8.4
	29/04/2019	1.252	5.620	3.6690	2.417	4.38	29.9	236.6	2142	8.5
	16/10/2019	1.832	5.640	3.6690	1.837	3.54	28.3	317.4	2286	8.5
	27/04/2020	1.399	5.625	3.6690	2.270	2.04	30.8	215.4	9109	7.8
	7/09/2020	1.674	5.630	3.6690	1.995	4.37	27.9	14.5	4100	8.0
	28/04/2021	1.094	5.620	3.6690	2.575	3.51	29.8	88.9	7561	7.8
	13/10/2021	1.724	5.620	3.6690	1.945	2.71	29.2	121.3	3229	8.4
	21/04/2022	1.459	5.620	3.6690	2.210	2.99	30.3	65.6	4026	7.9
	11/10/2022	1.612	5.620	3.6690	2.057	0.83	28.4	280.8	3587	9.0
	26/04/2023	1.094	5.620	3.6690	2.575	2.61	30.5	376.8	10594	7.6
	11/10/2023	1.700	5.613	3.6690	1.969	1.78	30.4	229.6	8973	8.2
	13/03/2024	0.995	5.581	3.6690	2.674	0.75	31.1	196.3	9211	7.9
MW055	16/08/2017	1.700	4.905	3.5630	1.863	1.02	27.4	343.2	14614	7.5
	16/04/2018	1.197	4.910	3.5630	2.366	0.28	NR	241.1	15924	7.6
	18/12/2018	1.132	4.910	3.5630	2.431	1.93	32.1	544.5	2121	7.8
	29/04/2019	1.262	4.910	3.5630	2.301	1.40	30.6	249.8	4393	8.2
	16/10/2019	1.870	4.924	3.5630	1.693	0.42	29.9	317.1	4255	8.0
	27/04/2020	1.479	4.911	3.5630	2.084	3.71	30.0	282.0	10497	7.4
	7/09/2020	1.714	4.910	3.5630	1.849	2.77	27.2	1.5	12950	7.2
	28/04/2021	1.113	4.910	3.5630	2.450	2.50	30.9	60.8	3313	7.7
	13/10/2021	1.791	4.910	3.5630	1.772	2.69	29.9	81.9	6153	8.0
	21/04/2022	1.521	4.920	3.5630	2.042	2.73	29.9	55.1	4912	7.4
	10/10/2022	1.660	4.920	3.5630	1.903	0.59	28.9	85.5	8301	8.4
	26/04/2023	1.107	4.920	3.5630	2.456	2.59	31.5	282.4	5019	7.8
	10/10/2023	1.727	4.896	3.5630	1.836	2.12	29.4	197.2	3556	8.1
	13/03/2024	1.045	4.924	3.5630	2.518	0.81	32.0	201.9	2602	7.8
MW081	16/08/2017	1.382	5.377	3.4080	2.026	1.54	26.2	209.0	7570	7.3
	16/04/2018	0.803	5.350	3.4080	2.605	NR	29.6	278.5	15487	7.9
	17/12/2018	0.795	5.325	3.4080	2.613	3.43	31.1	592.2	3545	6.7
	30/04/2019	0.968	5.350	3.4080	2.440	1.50	27.2	271.9	6780	7.6
	16/10/2019	1.515	5.323	3.4080	1.893	0.89	28.2	349.8	9047	6.5
	27/04/2020	1.120	5.298	3.4080	2.288	1.89	29.7	229.0	17416	7.3
	7/09/2020	1.288	5.280	3.4080	2.120	2.37	28.9	81.5	17705	7.3
	28/04/2021	0.622	5.070	3.4080	2.786	3.08	27.7	200.4	5858	7.2
	11/10/2021	1.335	5.070	3.4080	2.073	2.42	27.6	206.3	15615	7.2
	20/04/2022	1.176	4.950	3.4080	2.232	4.61	27.3	143.3	17096	6.9
	11/10/2022	1.270	4.950	3.4080	2.138	0.53	28.5	291.4	15895	8.0
	26/04/2023	0.773	4.950	3.4080	2.635	1.68	30.4	251.6	10269	7.3
	11/10/2023	1.345	4.901	3.4080	2.063	2.37	28.5	216.4	11752	7.3
	13/03/2024	0.751	4.892	3.4080	2.657	0.58	30.6	200.1	3931	7.4

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW090	16/08/2017	2.283	3.383	3.3030	1.020	3.26	29.3	135.8	5104	7.8
	16/04/2018	0.682	2.930	3.3030	2.621	1.07	31.3	101.9	1107	8.3
	20/12/2018	0.540	2.950	3.3030	2.763	1.64	32.4	250.3	1402	8.0
	30/04/2019	0.565	2.930	3.3030	2.738	1.75	29.7	213.0	1932	8.3
	16/10/2019	0.575	2.952	3.3030	2.728	1.35	29.5	356.1	1173	8.1
	27/04/2020	0.557	2.942	3.3030	2.746	1.85	33.6	40.9	1147	7.9
	7/09/2020	0.568	2.940	3.3030	2.735	1.98	29.5	-29.5	1250	8.2
	28/04/2021	0.565	2.950	3.3030	2.738	2.48	28.7	159.4	538	8.0
	11/10/2021	0.964	2.950	3.3030	2.339	1.68	29.5	144.6	957	8.3
	20/04/2022	0.752	2.880	3.3030	2.551	4.42	27.6	115.2	1417	8.2
	11/10/2022	0.720	2.880	3.3030	2.583	1.09	31.2	289.0	1598	8.4
	26/04/2023	1.020	2.880	3.3030	2.283	3.39	30.7	215.7	5380	7.7
	11/10/2023	0.670	2.912	3.3030	2.633	2.23	29.4	176.4	1599	8.1
13/03/2024	0.550	2.879	3.3030	2.753	1.10	31.1	200.0	4705	7.7	
MW109	16/08/2017	1.555	5.830	3.2550	1.700	3.35	26.4	434.1	33260	7.2
	16/04/2018	1.204	5.840	3.2550	2.051	2.31	29.0	268.1	30287	7.5
	19/12/2018	0.833	5.850	3.2550	2.422	3.04	30.1	568.3	20058	7.7
	29/04/2019	1.162	5.840	3.2550	2.093	4.13	27.9	277.2	19194	7.6
	17/10/2019	1.517	5.850	3.2550	1.738	3.24	28.4	307.4	18145	7.5
	27/04/2020	1.394	5.843	3.2550	1.861	1.72	29.6	261.0	48777	6.8
	11/09/2020	1.504	5.840	3.2550	1.751	2.92	26.0	339.6	35958	6.7
	29/04/2021	1.032	5.830	3.2550	2.223	1.76	28.5	87.5	36471	6.8
	13/10/2021	1.700	5.830	3.2550	1.555	3.32	27.3	168.1	20505	7.6
	21/04/2022	1.491	5.840	3.2550	1.764	2.23	27.8	102.6	27654	6.7
	11/10/2022	1.565	5.840	3.2550	1.690	0.59	25.6	308.7	34728	7.5
	26/04/2023	1.170	5.840	3.2550	2.085	2.84	29.3	120.7	22470	7.4
	11/10/2023	1.612	5.804	3.2550	1.643	3.05	27.2	295.6	26967	7.4
19/03/2024	1.155	5.897	3.2550	2.100	0.97	29.1	134.0	29778	7.4	
MW110	15/08/2017	1.160	4.880	2.8530	1.693	2.36	26.6	407.5	43179	6.7
	16/04/2018	0.937	4.490	2.8530	1.916	0.82	28.7	271.5	42378	6.8
	18/12/2018	0.775	4.897	2.8530	2.078	2.35	31.8	557.4	18136	7.3
	29/04/2019	0.672	4.490	2.8530	2.181	0.84	26.7	297.8	33972	7.1
	17/10/2019	1.192	4.910	2.8530	1.661	1.22	26.6	340.3	28555	7.1
	27/04/2020	0.945	4.891	2.8530	1.908	1.43	30.7	211.1	47277	6.8
	11/09/2020	1.012	4.900	2.8530	1.841	2.20	26.1	287.0	50257	6.2
	29/04/2021	0.576	4.890	2.8530	2.277	3.22	28.7	130.2	3082	7.7
	13/10/2021	1.220	4.890	2.8530	1.633	1.73	30.4	143.9	47518	6.4
	21/04/2022	0.994	4.680	2.8530	1.859	1.22	29.8	61.8	44496	6.4
	12/10/2022	1.102	4.680	2.8530	1.751	0.60	27.5	277.3	11148	7.5
	26/04/2023	0.673	4.680	2.8530	2.180	2.27	28.8	134.7	9710	6.8
	11/10/2023	1.114	4.852	2.8530	1.739	2.01	27.5	192.1	29755	6.9
19/03/2024	0.720	4.798	2.8530	2.133	1.30	31.1	58.7	49125	6.8	
MW138	15/08/2017	1.360	5.957	2.9030	1.543	1.72	26.6	182.0	62528	6.4
	16/04/2018	0.614	5.980	2.9030	2.289	2.31	29.6	245.1	673	7.4
	30/04/2019	0.656	5.980	2.9030	2.247	2.03	27.2	423.8	242.7	5.9
	16/10/2019	1.240	4.990	2.9030	1.663	4.60	26.8	318.5	3840	7.5
	27/04/2020	0.949	5.980	2.9030	1.954	1.36	29.3	125.5	26381	7.0
	7/09/2020	1.053	5.970	2.9030	1.850	3.19	27.3	-2.8	34603	6.5
	29/04/2021	0.549	5.990	2.9030	2.354	3.04	28.4	69.0	2027	7.3
	12/10/2021	1.255	5.990	2.9030	1.648	2.71	27.0	100.1	9570	7.0
	21/04/2022	1.007	5.980	2.9030	1.896	1.44	30.3	35.2	19047	6.8
	12/10/2022	1.280	5.980	2.9030	1.623	0.27	26.7	163.1	31502	7.5
	26/04/2023	1.468	5.980	2.9030	1.435	2.96	29.0	109.8	39537	6.9
	11/10/2023	2.252	6.877	2.9030	0.651	1.98	27.6	147.4	44599	6.8
	19/03/2024	1.533	6.798	2.9030	1.370	0.72	31.1	68.2	52845	6.9
MW139	15/08/2017	1.605	5.995	3.4430	1.838	1.21	28.4	243.0	60306	6.9
	16/04/2018	1.202	6.000	3.4430	2.241	1.25	30.1	219.2	25970	7.6
	19/12/2018	0.922	6.010	3.4430	2.521	1.58	30.4	583.9	25801	7.5
	30/04/2019	1.149	6.000	3.4430	2.294	1.35	28.5	437.1	26288	7.0
	16/10/2019	1.588	6.015	3.4430	1.855	1.21	28.0	336.2	21953	7.2
	27/04/2020	1.403	6.004	3.4430	2.040	1.51	30.8	179.0	38985	7.2
	7/09/2020	1.995	6.000	3.4430	1.448	1.31	28.7	-68.2	44764	6.6
	29/04/2021	1.072	6.020	3.4430	2.371	1.26	29.7	1.5	44070	7.0
	12/10/2021	1.630	6.020	3.4430	1.813	1.92	27.9	29.8	15794	6.9
	21/04/2022	1.475	5.990	3.4430	1.968	1.76	30.9	62.6	42811	6.6
	12/10/2022	1.700	5.990	3.4430	1.743	0.86	28.2	276.0	27497	7.7
	26/04/2023	1.039	5.990	3.4430	2.404	3.13	31.2	202.1	19623	7.3
	11/10/2023	1.783	5.991	3.4430	1.660	1.73	29.6	174.6	22646	7.4
19/03/2024	1.127	5.921	3.4430	2.316	0.81	31.9	49.3	29363	7.5	
MW246	16/08/2017	1.755	7.727	3.9010	2.146	1.47	28.2	174.4	36400	6.6
	17/04/2018	1.233	7.700	3.9010	2.668	1.91	31.8	205.5	28137	6.8
	17/12/2018	1.305	7.530	3.9010	2.596	NR	31.8	630.1	3421	6.1
	1/05/2019	1.248	7.700	3.9010	2.653	1.92	29.3	299.4	34108	6.1
	15/10/2019	1.876	7.412	3.9010	2.025	1.13	28.8	312.9	34825	5.8
	27/04/2020	1.456	7.196	3.9010	2.445	2.15	29.3	241.0	46907	6.3
	7/09/2020	1.748	7.470	3.9010	2.153	1.92	27.2	98.9	40455	6.2
	30/04/2021	1.149	7.370	3.9010	2.752	1.71	29.1	275.1	46791	6.3
	13/10/2021	1.819	7.370	3.9010	2.082	3.13	29.0	210.6	43153	6.1
	12/04/2022	1.574	7.160	3.9010	2.327	1.46	30.6	279.5	43600	6.2
	11/10/2022	1.655	7.160	3.9010	2.246	Insufficient water for parameters. Sampled				
	26/04/2023	1.103	7.160	3.9010	2.798	3.00	30.0	316.1	46458	6.2
	11/10/2023	1.721	7.185	3.9010	2.180	2.24	28.4	308.0	39593	6.4
25/03/2024	1.074	7.015	3.9010	2.827	3.11	29.4	336.2	35724	6.1	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW250	15/08/2017	2.175	6.000	3.9160	1.741	1.98	27.2	398.7	31117	7.1
	16/04/2018	1.649	5.780	3.9160	2.267	-	29.3	339.4	12231	7.4
	19/12/2018	1.651	5.450	3.9160	2.265	3.58	29.9	574.4	14754	7.6
	29/04/2019	1.720	5.780	3.9160	2.196	1.70	27.1	276.9	3651	7.3
	17/10/2019	2.282	5.277	3.9160	1.634	1.94	26.7	330.6	6052	7.4
	29/04/2020	1.885	5.222	3.9160	2.031	0.47	27.1	224.5	4835	7.2
	10/09/2020	1.149	5.200	3.9160	2.767	2.85	25.3	395.6	13113	6.7
	21/04/2021	1.691	5.200	3.9160	2.225	2.10	27.1	379.4	3578	6.8
	11/10/2021	2.245	5.200	3.9160	1.671	2.38	27.6	244.4	10766	7.3
	20/04/2022	2.074	5.020	3.9160	1.842	1.06	30.4	239.2	56942	6.0
	12/10/2022	2.105	5.020	3.9160	1.811	0.82	25.3	318.1	5067	7.6
	28/04/2023	1.684	5.030	3.9160	2.232	3.01	30.1	240.0	2330	7.0
9/10/2023	2.173	5.006	3.9160	1.743	1.88	26.2	256.8	7978	7.2	
20/03/2024	1.608	5.021	3.9160	2.308	8.94	29.6	308.8	3412	7.4	
MW251	15/08/2017	1.678	7.332	3.4400	1.762	2.57	27.0	200.3	27537	6.6
	16/04/2018	1.190	7.280	3.4400	2.250	0.32	30.1	326.1	32103	6.7
	19/12/2018	0.983	7.195	3.4400	2.457	2.15	31.2	582.0	18719	6.9
	29/04/2019	1.245	7.280	3.4400	2.195	0.76	28.1	314.0	38014	6.4
	17/10/2019	1.846	7.265	3.4400	1.594	0.76	28.0	365.0	30982	6.5
	29/04/2020	1.449	7.195	3.4400	1.991	0.31	28.6	283.9	41467	6.3
	10/09/2020	0.691	7.180	3.4400	2.749	1.83	25.8	367.5	42236	6.2
	29/04/2021	0.953	7.120	3.4400	2.487	2.08	28.8	254.4	40400	6.2
	11/10/2021	1.743	7.120	3.4400	1.697	1.83	28.5	242.9	41690	6.5
	20/04/2022	1.540	7.600	3.4400	1.900	1.06	30.4	239.2	56942	6.0
	11/10/2022	1.640	7.600	3.4400	1.800	0.34	27.1	318.9	36585	7.1
	28/04/2023	1.082	7.030	3.4400	5.948	2.18	30.8	322.7	49959	6.3
	9/10/2023	1.679	6.991	3.4400	1.761	2.53	27.5	331.5	39238	6.4
15/03/2024	1.054	7.080	3.4400	2.386	1.14	31.9	305.3	43311	6.5	
Sub-Management Area 3										
MW009	17/08/2017	1.150	4.792	3.5200	2.370	1.67	26.9	216.3	19511	6.4
	18/04/2018	0.830	4.930	3.5200	2.690	1.38	21.5	237.1	17776	6.6
	1/05/2019	0.840	4.930	3.5200	2.680	1.09	29.2	333.2	21310	6.6
	15/10/2019	1.180	4.804	3.5200	2.340	1.40	27.4	395.8	20882	6.4
	28/04/2020	0.937	4.793	3.5200	2.583	2.20	28.5	172.3	21967	6.6
	10/09/2020	1.095	4.790	3.5200	2.425	3.04	25.8	297.1	23777	6.2
	29/04/2021	0.821	4.680	3.6340	2.813	1.92	29.1	218.6	27666	6.5
	13/10/2021	1.085	4.680	3.6340	2.549	2.16	30.1	223.8	24311	6.3
	13/04/2022	1.013	4.640	3.6340	2.621	1.75	31.0	248.3	27941	6.6
	10/10/2022	1.034	4.640	3.6340	2.600	0.56	25.5	363.9	23334	6.5
	4/05/2023	0.884	4.790	3.5200	2.636	3.41	31.4	283.7	35086	6.5
	10/10/2023	1.063	4.775	3.5200	2.457	2.21	27.7	294.6	22286	6.6
19/03/2024	0.775	4.801	3.5200	2.745	0.69	31.1	271.0	31852	6.7	
MW038	17/08/2017	1.075	4.700	4.7340	3.659	1.04	29.3	304.6	3612	7.8
	19/04/2018	0.745	4.700	4.7340	3.989	1.11	28.7	233.1	2745	7.0
	2/05/2019	0.795	4.700	4.7340	3.939	1.30	30.2	279.8	1929	8.5
	15/10/2019	1.052	4.707	4.7340	3.682	0.43	31.4	309.9	2495	7.7
	28/04/2020	0.861	4.705	4.7340	3.873	2.78	29.9	108.5	4936	7.7
	11/09/2020	1.041	4.710	4.7340	3.693	2.78	27.7	467.3	4611	6.5
	29/04/2021	0.526	4.630	4.7340	4.208	2.15	28.9	92.0	2288	8.1
	11/10/2021	0.758	4.630	4.7340	3.976	2.80	29.6	172.6	3877	8.2
	21/04/2022	0.772	5.630	4.7340	3.962	2.33	31.8	168.0	2231	7.9
	11/10/2022	0.800	5.630	4.7340	3.934	0.68	29.6	275.9	5336	8.2
	4/05/2023	0.540	4.600	4.7340	4.194	3.07	31.5	56.2	8521	7.9
	12/10/2023	0.845	4.608	4.7340	3.889	2.16	28.2	96.6	2602	7.6
19/03/2024	0.575	4.592	4.7340	4.159	1.08	32.6	95.6	2801	8.2	
MW043	17/08/2017	1.284	5.873	3.6130	2.329	4.98	26.7	266.7	39902	6.5
	19/04/2018	0.908	6.880	3.6130	2.705	2.34	29.2	255.5	16736	7.0
	1/05/2019	0.820	6.880	3.6130	2.793	1.22	28.5	303.6	14168	7.1
	15/10/2019	1.385	5.863	3.6130	2.228	2.80	27.5	373.5	12482	7.2
	28/04/2020	1.085	5.823	3.6130	2.528	1.67	27.9	268.2	49909	6.5
	10/09/2020	1.299	5.810	3.6130	2.314	1.08	26.7	134.6	41406	6.4
	29/04/2021	0.800	5.780	3.6130	2.813	1.02	28.2	4.9	18852	-
	11/10/2021	1.256	5.780	3.6130	2.357	2.29	28.3	167.2	66270	6.6
	13/04/2022	1.084	5.730	3.6130	2.529	1.56	30.2	144.5	23735	6.9
	11/10/2022	1.180	5.730	3.6130	2.433	0.78	27.3	317.5	51159	7.2
	28/04/2023	0.844	5.710	3.6130	2.769	2.35	30.7	138.1	62293	6.4
	11/10/2023	1.211	5.686	3.6130	2.402	1.35	28.5	276.8	61600	6.2
19/03/2024	0.746	5.690	3.6130	2.867	0.68	30.9	263.8	49858	6.7	
MW114	15/08/2017	1.430	5.405	3.3250	1.895	2.54	26.9	358.0	18944	6.0
	19/04/2018	1.165	5.380	3.3250	2.160	0.12	28.2	265.9	3981	7.4
	17/12/2018	0.604	5.385	3.3250	2.721	0.73	29.4	75.8	11201	6.4
	1/05/2019	1.158	5.380	3.3250	2.167	4.74	29.3	250.2	2594	7.9
	16/10/2019	1.587	5.390	3.3250	1.738	1.33	27.1	393.7	3790	6.2
	30/04/2020	1.267	5.355	3.3250	2.058	2.22	30.5	156.9	7435	6.4
	10/09/2020	1.356	5.340	3.3250	1.969	2.09	25.4	311.7	5239	6.1
	28/04/2021	1.006	5.200	3.3250	2.319	3.80	25.5	180.5	2624	6.9
	13/10/2021	1.384	5.200	3.3250	1.941	2.87	27.7	117.2	4684	6.6
	12/04/2022	1.284	5.170	3.3250	2.041	1.68	29.7	188.0	2532	6.9
	11/10/2022	1.325	5.170	3.3250	2.000	0.53	26.2	227.3	15291	6.7
	28/04/2023	1.084	5.150	3.3250	2.241	2.74	29.3	124.1	4400	6.8
	10/10/2023	1.295	5.150	3.3250	2.030	2.83	27.3	179.1	2909	6.8
	14/03/2024	0.963	5.216	3.3250	2.362	0.49	29.5	201.5	17808	5.8
MW125	17/08/2017	2.095	10.087	4.6170	2.522	4.12	28.2	158.7	24662	6.9
	18/04/2018	1.708	10.020	4.6170	2.909	1.36	29.9	226.9	13097	7.0
	1/05/2019	1.730	10.020	4.6170	2.887	1.89	29.3	292.5	9142	7.3
	15/10/2019	1.940	10.005	4.6170	2.677	4.47	27.4	350.2	4320	7.2
	28/04/2020	1.766	9.932	4.6170	2.851	1.43	28.2	192.1	92462	5.4
	10/09/2020	1.843	9.940	4.6170	2.774	1.93	25.8	324.7	87650	5.3
	29/04/2021	1.586	9.920	4.6170	3.031	1.60	28.2	66.6	20999	6.3
	13/10/2021	1.854	9.920	4.6170	2.763	2.40	28.9	123.0	56270	6.1
	20/04/2022	1.825	9.720	4.6170	2.792	3.57	26.6	152.4	83724	6.7
	11/10/2022	1.900	9.720	4.6170	2.717	0.65	28.8	311.4	68388	6.3
	4/05/2023	1.673	9.650	4.6170	2.944	2.62	30.5	177.8	105933	6.0
	11/10/2023	2.001	9.625	4.6170	2.616	1.87	28.6	258.1	79586	5.7
	13/03/2024	1.544	9.971	4.6170	3.073	2.90	29.6	84.6	8170	7.5

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH	
MW142	17/08/2017	1.087	6.110	3.1690	2.082	4.13	27.2	351.0	30441	7.2	
	19/04/2018	0.800	6.905	3.1690	2.369	NR	29.1	356.1	53198	6.6	
	17/12/2018	0.440	6.110	3.1690	2.729	0.77	30.1	606.7	52748	6.6	
	1/05/2019	0.754	6.905	3.1690	2.415	2.94	29.2	304.0	52396	NR	
	16/10/2019	1.282	6.105	3.1690	1.887	0.65	28.4	450.7	47279	5.9	
	29/04/2020	1.019	6.103	3.1690	2.150	0.45	27.2	243.5	58404	6.3	
	10/09/2020	1.179	6.100	3.1690	1.990	3.45	26.2	NR	48095	5.7	
	21/04/2021	0.815	6.100	3.1690	2.354	1.92	28.1	363.9	53953	6.2	
	11/10/2021	1.211	6.100	3.1690	1.958	1.41	29.7	258.2	60348	6.3	
	20/04/2022	1.040	6.110	3.1690	2.129	1.06	30.4	239.2	56942	6.0	
	12/10/2022	1.025	6.110	3.1690	2.144	2.44	26.7	336.8	6237	7.4	
	28/04/2023	0.675	6.100	3.1690	2.494	2.09	29.4	301.8	68701	6.2	
9/10/2023	1.091	6.084	3.1690	2.078	2.38	27.6	328.3	58268	6.3		
15/03/2024	0.704	6.105	3.1690	2.465	1.05	30.2	294.7	60235	6.3		
MW247	16/08/2017	1.665	4.300	4.3990	2.734	0.86	26.1	321.3	1242	6.7	
	19/04/2018	1.203	4.300	4.3990	3.196	1.88	28.4	255.3	1009	6.6	
	19/12/2018	0.840	4.210	4.3990	3.559	3.37	30.1	342.0	1470	6.9	
	1/05/2019	1.180	4.300	4.3990	3.219	1.73	29.0	297.3	1124	7.3	
	18/10/2019	2.160	4.212	4.3990	2.239	2.53	27.7	331.9	921	6.7	
	28/04/2020	1.377	4.195	4.3990	3.022	2.10	28.4	171.9	411.3	6.4	
	10/09/2020	1.838	4.220	4.3990	2.561	2.63	25.6	332.4	717	6.3	
	29/04/2021	0.951	4.140	4.3990	3.448	3.04	27.5	219.8	1388	6.7	
	11/10/2021	1.821	4.140	4.3990	2.578	1.97	27.6	228.7	790	6.6	
	21/04/2022	1.585	4.140	4.3990	2.814	2.01	28.4	246.4	891	6.6	
	10/10/2022	1.740	4.140	4.3990	2.659	0.87	26.4	338.5	1719	7.3	
	4/05/2023	1.122	4.090	4.3990	3.277	3.84	28.4	178.7	1223	7.3	
	10/10/2023	1.879	4.099	4.3990	2.520	3.31	27.3	260.6	650	6.6	
19/03/2024	0.950	4.105	4.3990	3.449	0.90	30.2	294.9	894	6.2		
MW248	17/08/2017	1.570	3.880	3.9430	2.373	0.47	27.2	318.6	16634	7.4	
	19/04/2018	1.229	3.900	3.9430	2.714	1.28	26.2	252.1	16753	7.3	
	1/05/2019	1.170	3.900	3.9430	2.773	1.49	28.0	397.1	16288	7.3	
	15/10/2019	1.745	3.724	3.9430	2.198	0.69	27.3	388.7	15815	7.0	
	28/04/2020	1.402	3.650	3.9430	2.541	2.46	28.7	150.2	18960	7.3	
	10/09/2020	1.624	3.670	3.9430	2.319	2.22	27.0	360.7	21232	6.7	
	6/05/2021	1.192	3.810	3.9430	2.751	2.12	27.3	403.1	13463	7.6	
	11/10/2021	1.575	3.810	3.9430	2.368	1.69	27.8	315.6	19598	6.8	
	21/04/2022	1.458	3.610	3.9430	2.485	2.66	28.4	223.9	15871	7.0	
	11/10/2022	1.500	3.610	3.9430	2.443	0.62	27.1	298.9	16010	7.7	
	4/05/2023	0.074	3.590	3.9430	3.869	3.38	28.4	107.0	12965	7.5	
	12/10/2023	1.492	3.573	3.9430	2.451	2.70	27.8	251.3	16074	6.9	
19/03/2024	0.994	3.610	3.9430	2.949	1.22	30.8	247.6	12790	7.4		
MW249	17/08/2017	1.320	10.060	4.3710	3.051	5.18	26.1	312.5	1947	7.8	
	19/04/2018	0.764	10.030	4.3710	3.607	1.53	32.6	223.0	201.6	8.0	
	1/05/2019	0.648	10.030	4.3710	3.723	3.47	28.8	283.9	1387	8.0	
	28/04/2020	1.055	9.674	4.3710	3.316	2.19	29.7	167.7	7096	6.7	
Remaining On-Base											
MW002	15/08/2017	0.697	4.670	1.8660	1.169	3.06	25.6	222.2	1411	6.5	
	18/04/2018	0.394	4.680	1.8660	1.472	1.24	28.9	143.8	19221	6.4	
	19/12/2018	0.200	4.680	1.8660	1.666	0.69	29.5	462.6	25701	6.1	
	30/04/2019	0.444	4.680	1.8660	1.422	1.64	28.7	187.3	1829	6.9	
	18/10/2019	1.260	4.675	1.8660	0.606	0.20	26.1	167.4	2256	6.1	
	29/04/2020	0.715	4.668	1.8660	1.151	0.75	29.7	138.2	1658	6.2	
	9/09/2020	0.811	4.670	1.8660	1.055	2.47	25.0	-28.4	18190	6.3	
	28/04/2021	0.052	4.670	1.8660	1.814	2.83	27.4	148.5	26039	6.3	
	12/10/2021	1.012	4.670	1.8660	0.854	2.75	27.1	104.9	3490	6.5	
	13/04/2022	0.646	4.680	1.8660	1.220	2.43	28.8	129.3	2504	6.8	
	10/10/2022	0.566	4.680	1.8660	1.300	0.42	25.6	122.4	3282	7.6	
	27/04/2023	0.000	4.680	1.8660	1.866	1.80	29.5	101.3	36468	6.5	
	10/10/2023	0.690	4.655	1.8660	1.176	2.83	26.1	142.2	1908	6.4	
14/03/2024	0.010	4.575	1.8660	1.856	0.71	29.7	198.1	30569	6.6		
MW004	17/08/2017	2.017	5.175	3.1810	1.164	0.31	27.5	240.2	1504	6.4	
	17/04/2018	1.110	5.266	3.1810	2.071	0.98	29.3	205.6	1006	6.5	
	19/12/2018	1.205	5.260	3.1810	1.976	1.57	30.3	315.7	799	7.7	
	30/04/2019	1.158	5.266	3.1810	2.023	1.86	27.4	333.3	719	7.0	
	18/10/2019	2.074	5.265	3.1810	1.107	0.37	27.5	287.1	425.9	6.6	
	29/04/2020	1.535	5.255	3.1810	1.646	1.59	30.8	242.4	502	6.1	
	9/09/2020	1.969	5.260	3.1810	1.212	3.25	25.8	59.2	1558	6.3	
	28/04/2021	0.907	5.240	3.1810	2.274	3.76	27.1	173.7	7174	6.5	
	12/10/2021	2.001	5.240	3.1810	1.180	2.13	28.7	131.1	924	7.4	
	13/04/2022	1.774	5.230	3.1810	1.407	2.33	29.8	239.1	1330	7.4	
	10/10/2022	1.805	5.230	3.1810	1.376			Insufficient water for parameters. Sampled			
	27/04/2023	1.048	5.230	3.1810	2.133	3.26	28.8	173.8	6959	6.4	
	10/10/2023	1.882	5.020	3.1810	1.299	3.31	26.8	171.4	893	7.2	
14/03/2024	0.928	4.913	3.1810	2.253	1.10	31.1	214.5	1851	6.4		
MW026	17/08/2017	1.989	4.902	5.1640	3.175	0.16	29.6	208.1	4279	7.1	
	18/04/2018	1.526	4.900	5.1640	3.638	0.82	33.5	207.3	4134	7.0	
	2/05/2019	1.070	4.900	5.1640	4.094	1.04	31.5	301.7	3651	7.2	
	14/10/2019	1.830	4.900	5.1640	3.334	0.69	30.3	420.4	3277	7.0	
	28/04/2020	1.205	4.881	5.1640	3.959	2.07	31.6	169.6	3354	7.2	
	23/09/2020	1.138	4.840	5.1640	4.026	1.96	28.2	208.2	977	7.5	
	30/04/2021	1.465	4.860	5.1640	3.699	2.42	30.2	87.5	793	7.9	
	13/10/2021	1.697	4.860	5.1640	3.467	2.04	32.0	153.7	1036	8.0	
	21/04/2022	1.644	4.890	5.1640	3.520	3.57	32.7	229.1	1805	7.9	
	13/10/2022	1.742	4.890	5.1640	3.422	1.79	28.8	310.6	677	7.6	
	4/05/2023	1.439	4.870	5.1640	3.725	2.70	32.8	93.6	1344	7.6	
	10/10/2023	1.725	4.865	5.1640	3.439	3.69	30.2	204.7	349.2	8.1	
14/03/2024	1.346	4.802	5.1640	3.818	4.41	33.0	223.8	356	8.0		

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW033	18/08/2017	2.383	3.950	5.8600	3.477	4.45	30.0	270.6	949	7.8
	17/04/2018	2.220	3.945	5.8600	3.640	1.34	31.4	196.9	860	8.0
	18/12/2018	0.705	3.953	5.8600	5.155	3.46	33.3	551.6	427.2	7.2
	2/05/2019	3.905	3.945	5.8600	1.955	3.32	31.5	271.9	890	8.2
	15/10/2019	2.390	3.956	5.8600	3.470	1.85	30.2	369.2	1200	7.3
	28/04/2020	2.264	4.951	5.8600	3.596	3.73	31.0	162.6	737	7.8
	11/09/2020	2.368	3.950	5.8600	3.492	4.81	29.1	284.9	1586	7.4
	30/04/2021	1.725	3.950	5.8600	4.135	7.10	29.9	179.7	599	8.1
	11/10/2021	2.317	3.950	5.8600	3.543	3.32	30.2	204.8	1224	8.0
	21/04/2022	2.308	3.930	5.8600	3.552	7.20	31.2	203.5	1455	7.7
	13/10/2022	2.352	3.930	5.8600	3.508	0.85	30.9	305.3	1290	8.3
	4/05/2023	2.215	3.920	5.8600	3.645	4.41	32.3	145.0	1502	8.1
	10/10/2023	2.355	3.895	5.8600	3.505	3.38	30.1	198.5	1137	7.7
	14/03/2024	2.131	3.932	5.8600	3.729	5.20	31.3	224.5	523	8.2
MW034	18/08/2017	2.043	3.920	5.4340	3.391	0.56	30.7	269.6	20253	6.6
	17/04/2018	1.708	3.902	5.4340	3.726	0.99	32.4	247.8	11801	6.5
	18/12/2018	1.450	3.914	5.4340	3.984	1.36	34.7	541.7	11432	6.7
	2/05/2019	1.804	3.902	5.4340	3.630	1.05	30.6	325.2	14647	6.7
	15/10/2019	2.083	3.915	5.4340	3.351	0.73	30.5	402.2	15687	6.2
	28/04/2020	1.859	3.900	5.4340	3.575	2.30	31.7	194.2	101.4	7.3
	11/09/2020	2.019	3.890	5.4340	3.415	1.80	28.2	333.9	20665	6.0
	30/04/2021	1.556	3.850	5.4340	3.878	2.16	29.7	83.8	10256	6.7
	11/10/2021	1.983	3.850	5.4340	3.451	1.48	30.9	251.4	19286	6.5
	21/04/2022	1.944	3.850	5.4340	3.490	2.93	32.9	276.3	20155	6.6
	13/10/2022	2.002	3.850	5.4340	3.432	0.45	30.0	332.1	16538	7.0
	4/05/2023	1.756	3.790	5.4340	3.678	2.97	32.7	150.6	22983	6.7
	10/10/2023	1.988	3.766	5.4340	3.446	2.34	30.9	167.8	15196	6.7
	13/03/2024	1.582	3.751	5.4340	3.852	2.82	33.6	207.9	10243	7.2
MW049	17/08/2017	2.387	5.545	5.2820	2.895	0.79	28.8	207.9	4648	7.3
	12/04/2018	1.530	5.360	5.2820	3.752	2.31	30.8	226.0	1532	6.7
	2/05/2019	1.673	5.360	5.2820	3.609	1.15	29.0	314.0	3759	7.5
	14/10/2019	2.384	5.303	5.2820	2.898	1.12	28.4	418.3	3741	7.0
MW056	17/08/2017	1.627	5.545	2.9550	1.328	1.19	23.9	290.5	33262	5.7
	17/04/2018	1.208	5.500	2.9550	1.747	0.97	27.0	41.7	20183	7.1
	29/04/2019	1.200	5.500	2.9550	1.755	1.41	27.1	322.4	8975	NR
	18/10/2019	1.852	5.550	2.9550	1.103	1.91	25.4	147.2	10078	6.6
	30/04/2020	1.463	5.485	2.9550	1.492	1.99	31.1	142.6	46781	6.5
	7/09/2020	1.991	5.460	2.9550	0.964	3.94	25.2	129.7	33400	6.4
	6/05/2021	1.013	5.460	2.9550	1.942	1.53	27.7	165.1	44713	6.3
	12/10/2021	1.712	5.460	2.9550	1.243	3.34	27.8	141.5	25848	7.2
	13/04/2022	1.554	5.450	2.9550	1.401	2.45	27.8	240.1	26437	6.7
	10/10/2022	1.445	5.450	2.9550	1.510	0.56	24.4	141.5	32862	6.4
	4/05/2023	0.885	5.420	2.9550	2.070	3.85	26.2	224.7	43206	6.6
	10/10/2023	1.518	5.415	2.9550	1.437	2.76	24.1	226.6	30663	6.4
	14/03/2024	0.644	5.430	2.9550	2.311	1.20	29.3	222.6	38848	6.1
	MW057	16/08/2017	1.962	6.343	3.1140	1.152	4.44	25.0	212.0	48830
16/04/2018		1.272	6.300	3.1140	1.842	2.40	27.6	231.1	43766	6.9
19/12/2018		1.132	6.325	3.1140	1.982	0.96	27.5	333.9	50563	6.5
29/04/2019		1.138	6.300	3.1140	1.976	5.29	26.5	459.6	851	5.0
18/10/2019		1.990	6.307	3.1140	1.124	5.05	25.9	268.3	8506	6.6
30/04/2020		1.593	6.300	3.1140	1.521	1.82	30.7	146.5	68701	6.5
7/09/2020		1.670	6.280	3.1140	1.444	4.70	26.6	88.5	46365	7.1
28/04/2021		0.830	6.280	3.1140	2.284	3.74	28.5	248.7	58281	6.6
12/10/2021		1.616	6.280	3.1140	1.498	2.00	26.8	227.9	54119	6.4
13/04/2022		1.642	6.270	3.1140	1.472	2.06	28.4	286.1	46654	6.4
11/10/2022		1.455	6.270	3.1140	1.659	0.64	24.7	286.6	39291	6.9
28/04/2023		0.878	6.240	3.1140	2.236	2.27	28.5	129.9	68448	6.6
9/10/2023		1.485	6.205	3.1140	1.629	2.96	25.3	199.0	53854	6.6
13/03/2024		0.745	6.325	3.1140	2.369	3.25	27.8	399.7	55576	7.0
MW061	16/08/2017	1.405	5.470	4.6680	3.263	1.13	28.9	282.8	8430	7.0
	17/04/2018	0.826	5.475	4.6680	3.842	1.23	31.9	215.4	2650	7.2
	17/12/2018	1.255	5.490	4.6680	3.413	2.28	35.2	328.6	2369	7.5
	2/05/2019	0.950	5.475	4.6680	3.718	3.90	30.6	285.6	1770	8.0
	17/10/2019	1.364	5.490	4.6680	3.304	2.35	30.8	328.8	2605	6.7
	28/04/2020	1.067	5.477	4.6680	3.601	2.38	31.9	197.8	5217	7.1
	23/09/2020	1.502	5.479	4.6680	3.166	4.42	27.4	285.6	3801	7.0
	30/04/2021	0.816	5.480	4.6680	3.852	2.16	29.9	55.2	3587	7.3
	13/10/2021	1.409	5.480	4.6680	3.259	3.19	29.3	198.1	3458	7.6
	22/04/2022	1.220	5.470	4.6680	3.448	1.60	31.8	165.7	2081	7.6
	13/10/2022	1.365	5.470	4.6680	3.303	1.40	29.3	321.8	3093	7.8
	4/05/2023	0.945	5.480	4.6680	3.723	2.91	32.2	48.4	2532	8.0
	12/10/2023	1.350	5.467	4.6680	3.318	2.28	28.9	142.4	3230	7.3
	19/03/2024	0.755	5.495	4.6680	3.913	0.54	33.3	38.7	3447	7.5
MW063	17/08/2017	1.630	5.300	4.8520	3.222	4.52	29.0	437.0	2948	7.4
	17/04/2018	1.215	5.310	4.8520	3.637	1.64	31.8	235.5	7290	6.9
	17/12/2018	1.045	5.320	4.8520	3.807	1.59	32.7	566.4	7961	6.8
	2/05/2019	1.283	5.310	4.8520	3.569	2.83	29.3	303.0	2900	7.7
	16/10/2019	1.710	5.315	4.8520	3.142	1.55	28.8	428.7	7438	6.8
	29/04/2020	1.645	5.318	4.8520	3.207	1.44	28.3	233.9	9730	7.0
	10/09/2020	1.971	5.310	4.8520	2.881	2.75	26.0	378.8	11191	6.5
	30/04/2021	0.819	5.310	4.8520	4.033	1.85	28.4	232.1	9471	6.9
	13/10/2021	1.439	5.310	4.8520	3.413	3.35	29.6	229.9	9823	6.8
	21/04/2022	1.138	5.320	4.8520	3.714	2.59	31.1	234.6	9608	7.0
	12/10/2022	1.275	5.320	4.8520	3.577	0.31	28.7	279.8	9220	7.7
	4/05/2023	0.777	5.310	4.8520	4.075	2.86	31.0	232.9	13938	6.9
	10/10/2023	1.157	5.287	4.8520	3.695	3.12	28.8	233.9	7607	7.1
	14/03/2024	0.615	5.325	4.8520	4.237	3.50	32.0	257.5	5935	7.9

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW112	16/08/2017	1.382	5.237	3.3000	1.918	0.71	26.4	212.6	26260	5.6
	16/04/2018	1.208	5.240	3.3000	2.092	0.04	28.9	142.4	29534	6.4
	20/12/2018	0.940	5.245	3.3000	2.360	2.54	30.3	246.3	17695	5.8
	30/04/2021	1.153	5.400	3.3000	2.147	1.85	28.7	207.6	9495	5.8
	13/10/2021	1.658	5.400	3.3000	1.642	3.66	28.3	163.2	7390	6.4
	12/04/2022	1.423	5.400	3.3000	1.877	2.46	30.2	218.8	13553	6.0
	12/10/2022	1.540	5.400	3.3000	1.760	0.49	26.8	248.7	23652	6.5
	4/05/2023	1.045	5.380	3.3000	2.255	3.02	29.1	177.9	30093	5.8
	9/10/2023	1.549	5.374	3.3000	1.751	3.12	26.4	124.6	29564	6.1
13/03/2024	1.030	5.435	3.3000	2.270	3.07	30.0	179.5	21032	6.3	
MW120	17/08/2017	1.405	5.950	4.5490	3.144	4.90	29.7	319.8	2954	7.6
	17/04/2018	0.842	5.900	4.5490	3.707	1.02	32.7	234.6	10275	6.7
	18/12/2018	0.725	5.900	4.5490	3.824	3.30	35.1	543.0	640	7.4
	2/05/2019	0.668	5.900	4.5490	3.881	2.27	32.4	299.6	3937	7.4
	15/10/2019	1.464	5.900	4.5490	3.085	4.59	30.7	277.1	2521	7.1
	28/04/2020	1.121	5.854	4.5490	3.428	2.22	33.6	170.9	8708	6.9
	11/09/2020	1.383	5.840	4.5490	3.166	2.78	29.5	306.0	12042	6.4
	30/04/2021	0.778	5.840	4.5490	3.771	2.11	30.3	40.7	7774	7.0
	11/10/2021	1.389	5.840	4.5490	3.160	1.74	29.9	187.1	5295	7.2
	21/04/2022	1.265	5.830	4.5490	3.284	2.44	32.3	274.9	11107	6.9
	13/10/2022	1.335	5.830	4.5490	3.214	1.44	28.3	325.0	7614	7.1
	4/05/2023	0.722	5.760	4.5490	3.827	2.84	32.1	149.0	4811	7.4
10/10/2023	1.345	5.736	4.5490	3.204	3.15	29.8	203.7	3200	7.4	
14/03/2024	0.651	5.715	4.5490	3.898	2.17	33.1	221.2	1025	7.7	
MW121	15/08/2017	0.360	5.800	2.0240	1.664	5.78	25.7	323.9	18916	6.2
	19/04/2018	0.240	5.883	2.0240	1.784	NR	28.1	350.6	22416	5.7
	29/04/2019	0.200	5.883	2.0240	1.824	1.01	28.7	263.7	9826	7.1
	17/10/2019	1.391	5.834	2.0240	0.633	1.24	25.9	380.8	19162	4.7
MW122	17/08/2017	1.292	6.485	2.4510	1.159	0.60	26.5	300.3	17575	4.8
	17/04/2018	0.839	6.500	2.4510	1.612	2.60	29.0	292.3	19848	5.2
	19/12/2018	0.450	6.450	2.4510	2.001	0.67	29.8	369.1	34854	6.4
	30/04/2019	0.924	6.500	2.4510	1.527	3.21	27.8	426.7	17460	6.6
	18/10/2019	1.753	6.456	2.4510	0.698	0.52	27.3	376.7	28881	5.9
	29/04/2020	1.182	6.428	2.4510	1.269	0.66	32.2	195.1	32441	5.9
	9/09/2020	1.581	6.450	2.4510	0.870	1.64	26.5	53.2	44398	5.9
	28/04/2021	0.502	6.430	2.4510	1.949	2.67	28.0	205.0	18493	5.8
	12/10/2021	1.573	6.430	2.4510	0.878	2.60	28.6	193.4	36107	6.1
	13/04/2022	1.400	6.380	2.4510	1.051	1.96	29.7	291.9	23437	6.1
	11/10/2022	1.310	6.380	2.4510	1.141	0.62	26.7	297.3	30406	6.8
	27/04/2023	0.698	6.380	2.4510	1.753	2.13	29.2	248.0	33291	6.1
	11/10/2023	1.503	6.355	2.4510	0.948	2.11	27.3	191.9	33655	6.3
13/03/2024	0.651	6.395	2.4510	1.800	2.46	29.0	431.7	14675	6.6	
MW135	15/08/2017	0.930	6.050	2.2750	1.345	2.81	27.7	173.8	30192	6.2
	17/04/2018	1.611	5.960	2.2750	0.664	0.99	29.4	156.4	38128	6.4
	19/12/2018	0.560	5.960	2.2750	1.715	0.79	29.1	-79.0	56049	6.6
	30/04/2019	0.525	5.960	2.2750	1.750	1.80	29.0	217.1	11973	6.7
	18/10/2019	1.773	5.920	2.2750	0.502	0.92	28.0	173.2	21668	6.3
	29/04/2020	1.155	5.910	2.2750	1.120	0.54	29.1	117.3	57573	6.5
	9/09/2020	1.439	5.900	2.2750	0.836	2.06	28.4	51.1	60937	6.2
	28/04/2021	0.552	5.890	2.2750	1.723	2.42	28.6	110.6	53898	6.5
	12/10/2021	1.621	5.890	2.2750	0.654	2.55	27.7	91.7	35068	6.2
	13/04/2022	1.442	5.680	2.2750	0.833	1.75	29.8	135.3	47668	6.2
	10/10/2022	1.445	5.680	2.2750	0.830	0.61	26.9	80.6	43354	6.7
	28/04/2023	0.563	5.660	2.2750	1.712	2.25	28.9	90.3	55331	6.4
	10/10/2023	1.456	5.641	2.2750	0.819	1.86	27.4	117.8	32244	6.5
	14/03/2024	0.441	5.579	2.2750	1.834	0.69	30.1	201.6	58730	6.5
MW136	17/08/2017	1.262	5.955	2.8230	1.561	4.26	28.2	198.1	5391	7.4
	17/04/2018	0.724	5.990	2.8230	2.099	0.38	29.9	258.0	1529	7.9
	17/12/2018	0.895	5.920	2.8230	1.928	2.90	30.3	317.0	1276	7.7
	2/05/2019	0.544	5.990	2.8230	2.279	2.07	28.2	252.1	1439	7.7
	17/10/2019	1.535	5.850	2.8230	1.288	3.19	28.8	344.1	4133	8.0
	29/04/2020	1.109	5.848	2.8230	1.714	7.60	29.6	160.2	2830	7.7
	9/09/2020	1.349	5.840	2.8230	1.474	3.40	26.4	61.5	2552	7.4
	28/04/2021	0.482	5.850	2.8230	2.341	1.76	27.2	81.6	1041	7.5
	12/10/2021	1.309	5.850	2.8230	1.514	2.63	28.4	160.5	1834	7.7
	13/04/2022	1.149	5.780	2.8230	1.674	1.86	29.6	353.3	1084	7.1
	11/10/2022	1.260	5.780	2.8230	1.563	0.84	26.8	320.8	1809	8.4
	4/05/2023	0.605	5.700	2.8230	2.218	4.30	29.0	73.9	5934	7.9
	10/10/2023	1.256	5.700	2.8230	1.567	2.70	27.7	236.0	1632	7.6
18/03/2024	0.630	5.660	2.8230	2.193	2.43	29.1	120.3	3902	7.7	
MW140	16/08/2017	1.420	13.000	2.7280	1.308	2.80	26.1	396.0	71941	6.2
	12/04/2018	0.769	13.014	2.7280	1.959	0.69	27.3	218.4	53254	5.8
	1/05/2019	0.895	13.014	2.7280	1.833	2.10	28.2	256.7	16331	6.5
	16/10/2019	1.605	12.770	2.7280	1.123	0.99	26.6	285.0	19830	5.8
	29/04/2020	1.129	12.700	2.7280	1.599	1.24	27.4	179.9	33585	6.1
	10/09/2020	0.510	11.180	2.7280	2.218	1.96	24.4	370.1	69747	5.9
	21/04/2021	0.789	11.180	2.7280	1.939	2.07	27.0	268.0	58358	6.1
	11/10/2021	1.533	11.180	2.7280	1.195	1.83	27.8	256.8	65689	6.1
	20/04/2022	1.268	12.330	2.7280	1.460	0.86	28.2	316.5	629	5.7
	12/10/2022	1.350	12.330	2.7280	1.378	0.26	25.8	332.4	55871	6.2
	28/04/2023	0.656	12.200	2.7280	2.072	2.12	27.2	242.0	71960	6.0
	9/10/2023	1.417	12.155	2.7280	1.311	2.56	26.3	273.3	64511	6.1
	20/03/2024	0.719	12.015	2.7280	2.009	1.05	26.5	244.7	55533	6.0

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH		
MW222	17/08/2017	1.313	8.091	4.5680	3.255	3.36	26.6	157.3	8236	6.4		
	18/04/2018	0.601	8.080	4.5680	3.967	1.33	31.2	236.6	12642	6.9		
	18/12/2018	1.550	5.630	4.5680	3.018	1.80	32.2	350.0	19334	6.7		
	10/05/2019	1.393	5.804	4.5680	3.175	0.92	30.9	196.1	11196	7.0		
	17/10/2019	1.561	8.020	4.5680	3.007	1.67	28.8	377.7	7513	5.7		
	30/04/2020	0.949	7.990	4.5680	3.619	2.12	30.5	192.5	14139	6.2		
	23/09/2020	1.501	7.970	4.5680	3.067	2.14	27.1	322.4	9526	5.3		
	30/04/2021	0.334	7.850	4.5680	4.234	5.88	22.8	251.3	7550	6.0		
	7/10/2021	1.275	7.850	4.5680	3.293	1.70	28.5	287.3	9603	5.5		
	20/04/2022	1.045	NR	4.5680	3.523	3.45	27.2	178.7	11254	6.8		
	12/10/2022	1.060	NR	4.5680	3.508	0.37	27.2	254.6	6668	7.3		
	4/05/2023	0.592	7.850	4.5680	3.976	3.36	27.3	92.2	2083	7.0		
12/10/2023	1.225	7.857	4.5680	3.343	1.69	26.5	171.5	6330	5.8			
21/03/2024	0.456	7.760	4.5680	4.112	0.27	28.8	82.1	3959	6.2			
MW223	17/08/2017	1.817	4.870	5.3370	3.520	1.10	28.3	210.9	2785	7.2		
	18/04/2018	1.173	4.900	5.3370	4.164	1.08	29.5	220.1	2680	7.4		
	2/05/2019	0.926	5.970	5.3370	4.411	1.27	NR	241.5	347.4	7.2		
	14/10/2019	1.545	6.953	5.3370	3.792	1.21	28.3	394.5	1215	7.3		
	28/04/2020	1.464	4.710	5.3370	3.873	1.94	28.6	202.7	1872	7.3		
	23/09/2020	1.198	4.728	5.3370	4.139	2.48	27.1	243.0	1017	7.4		
	30/04/2021	0.978	4.740	5.3370	4.359	2.29	27.8	189.3	1804	7.1		
	13/10/2021	1.397	4.740	5.3370	3.940	3.30	29.0	172.4	2760	7.5		
	12/04/2022	1.301	4.780	5.3370	4.036	2.47	30.8	297.2	2836	7.4		
	05/10/2022	1.476	4.780	5.3370	3.861	2.92	27.1	347.4	2380	6.9		
	4/05/2023	1.146	4.740	5.3370	4.191	2.95	29.1	279.2	2787	7.1		
	12/10/2023				Unable to locate well. Area resurfaced with compact gravel							
MW224	17/08/2017	1.733	8.192	5.0010	3.268	2.80	26.6	206.1	16370	6.8		
	18/04/2018	1.173	4.950	5.0010	3.828	2.05	29.7	231.9	9894	6.8		
	17/12/2018	1.592	7.985	5.0010	3.409	0.95	29.8	356.1	20503	6.5		
	2/05/2019	1.213	8.160	5.0010	3.788	0.87	28.9	307.7	11170	6.9		
	14/10/2019	1.900	8.055	5.0010	3.101	0.89	27.5	396.3	15597	6.1		
	28/04/2020	1.406	7.958	5.0010	3.595	1.87	28.0	246.9	18966	6.5		
	23/09/2020	1.750	7.930	5.0010	3.251	2.23	26.5	316.7	19896	5.9		
	30/04/2021	1.021	7.960	5.0010	3.980	1.98	27.3	243.3	19125	6.5		
	13/10/2021	1.653	7.960	5.0010	3.348	3.25	27.7	245.7	19155	6.5		
	12/04/2022	1.478	7.950	5.0010	3.523	2.97	29.1	298.6	19538	6.6		
	12/10/2022	1.495	7.950	5.0010	3.506	1.08	26.8	286.8	16092	7.6		
	4/05/2023	1.153	7.950	5.0010	3.848	2.81	29.2	223.5	21939	6.8		
12/10/2023	1.468	7.825	5.0010	3.533	1.76	28.1	271.0	15735	6.5			
13/03/2024	0.798	7.795	5.0010	4.203	2.72	31.3	235.0	12201	7.5			
MW226	16/08/2017	1.421	7.023	5.1720	3.751	4.37	26.1	211.5	17464	6.9		
	13/04/2018	0.660	7.000	5.1720	4.512	NR	28.9	307.4	15211	7.1		
	19/12/2018	0.665	6.922	5.1720	4.507	2.18	29.2	332.5	8276	7.3		
	3/05/2019	0.890	7.000	5.1720	4.282	0.99	28.7	298.0	20514	6.2		
	24/10/2019	1.820	6.760	5.1720	3.352	0.37	27.0	382.5	24057	6.4		
	25/04/2020	1.124	6.733	5.1720	4.048	1.28	29.0	94.8	7927	6.8		
	23/09/2020	1.673	6.640	5.1720	3.499	2.08	27.7	220.2	27438	6.3		
	30/04/2021	0.329	6.720	5.1720	4.843	1.37	27.8	92.9	6919	6.6		
	13/10/2021	1.721	6.720	5.1720	3.451	2.29	27.4	122.6	21501	6.5		
	12/04/2022	1.345	6.870	5.1720	3.827	2.08	28.5	96.9	11277	6.6		
	19/10/2022	1.445	6.870	5.1720	3.727	0.35	25.6	138.6	13912	6.7		
	4/05/2023	0.705	6.380	5.1720	4.467	2.89	26.9	84.5	6136	6.8		
12/10/2023	1.493	6.445	5.1720	3.679	1.68	27.7	99.4	18817	6.2			
21/03/2024	0.634	6.380	5.1720	4.538	0.40	28.7	38.2	23222	6.4			
MW227	16/08/2017	1.523	8.025	4.6930	3.170	4.36	27.0	182.6	13117	7.0		
	13/04/2018	0.790	8.000	4.6930	3.903	NR	29.7	288.6	7906	6.8		
	12/12/2018	1.450	8.000	4.6930	3.243	2.03	29.5	381.4	14608	6.6		
	3/05/2019	0.878	8.000	4.6930	3.815	1.12	28.9	163.0	13760	6.9		
	24/10/2019	1.705	7.948	4.6930	2.988	0.43	27.9	377.4	17758	6.1		
	25/04/2020	1.117	7.845	4.6930	3.576	1.48	29.7	149.4	28633	6.5		
	23/09/2020	1.574	7.860	4.6930	3.119	2.43	27.8	275.4	23103	5.9		
	30/04/2021	0.585	7.900	4.6930	4.108	1.50	28.8	169.1	19279	6.4		
	13/10/2021	1.578	7.900	4.6930	3.115	1.99	28.5	280.0	23407	6.3		
	12/04/2022	1.284	7.880	4.6930	3.409	1.92	28.5	125.6	21831	6.5		
	12/10/2022	1.360	7.880	4.6930	3.333	0.19	27.6	127.3	22192	7.3		
	4/05/2023	0.731	7.830	4.6930	3.962	3.44	28.1	111.8	19600	6.7		
12/10/2023	1.516	7.843	4.6930	3.177	1.71	26.9	123.7	21624	6.4			
20/03/2024	0.623	7.830	4.6930	4.070	1.22	29.1	110.5	18138	6.7			
MW228	16/08/2017	1.618	8.245	4.9440	3.326	2.51	27.1	224.1	23415	6.8		
	13/04/2018	0.890	8.550	4.9440	4.054	NR	28.5	325.4	15442	6.9		
	3/05/2019	1.042	8.550	4.9440	3.902	1.22	28.8	300.6	23027	6.6		
	25/04/2020	1.266	8.065	4.9440	3.678	2.30	29.3	238.0	25368	6.7		
	30/04/2021	0.770	8.040	4.9440	4.174	1.69	27.8	205.8	24902	6.5		
	12/04/2022	1.462	7.950	4.9440	3.482	3.09	27.9	266.6	23874	6.5		
	13/04/2023	0.895	7.850	4.9440	4.049	2.85	31.9	186.3	22892	6.6		
21/03/2024	0.738	7.680	4.9440	4.206	0.26	29.1	119.0	18360	6.6			
MW229	16/08/2017	2.355	10.302	5.3870	3.032	2.60	28.4	214.7	28880	6.4		
	18/04/2018	1.748	10.280	5.3870	3.639	1.10	32.5	244.6	29576	6.3		
	10/05/2019	1.905	10.280	5.3870	3.482	2.89	28.1	371.5	30814	NR		
	17/10/2019	2.487	10.256	5.3870	2.900	1.53	28.0	354.3	26967	5.9		
	25/04/2020	1.898	10.158	5.3870	3.489	2.07	29.7	310.4	37146	6.2		
	23/09/2020	2.373	10.160	5.3870	3.014	3.31	28.7	276.7	34910	5.7		
	30/04/2021	1.421	9.930	5.3870	3.966	2.26	27.7	299.6	34698	6.0		
	13/10/2021	2.349	9.930	5.3870	3.038	2.77	28.6	291.6	33372	6.1		
	12/04/2022	2.146	10.060	5.3870	3.241	2.06	29.9	163.1	31949	6.1		
	12/10/2022	2.245	10.060	5.3870	3.142	0.36	27.8	291.5	30690	7.0		
	4/05/2023	1.622	9.860	5.3870	3.765	2.41	28.4	190.9	38925	6.1		
	12/10/2023	2.336	9.875	5.3870	3.051	-	27.4	132.6	22146	6.1		
21/03/2024	1.604	9.900	5.3870	3.783	0.19	29.1	202.3	31855	6.1			

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW232	17/08/2017	1.978	4.962	5.7670	3.789	3.73	28.4	210.8	4537	7.5
	17/04/2018	1.299	4.960	5.7670	4.468	2.44	31.0	186.8	2707	7.5
	17/12/2018	1.870	4.965	5.7670	3.897	2.48	30.4	318.0	4595	7.6
	2/05/2019	1.349	4.960	5.7670	4.418	1.87	30.9	302.2	2446	7.9
	14/10/2019	1.940	4.955	5.7670	3.827	1.24	28.3	399.4	2508	7.6
	28/04/2020	1.513	4.965	5.7670	4.254	2.92	29.6	207.0	2825	7.7
	11/09/2020	1.740	4.970	5.7670	4.027	3.21	26.9	293.5	4884	7.1
	30/04/2021	1.193	4.940	5.7670	4.574	2.57	29.6	153.8	2696	7.6
	11/10/2021	1.779	4.940	5.7670	3.988	0.98	30.4	18.9	2073	7.6
	22/04/2022	1.698	4.850	5.7670	4.069	1.61	28.4	292.0	2533	7.4
	05/10/2022	2.965	4.850	5.7670	2.802	1.40	26.3	351.1	2596	7.4
	4/05/2023	1.283	4.770	5.7670	4.484	2.51	29.6	104.4	3449	7.5
10/10/2023	1.835	4.856	5.7670	3.932	2.51	27.5	93.4	3997	7.5	
14/03/2024	1.045	4.655	5.7670	4.722	3.86	30.1	164.6	4172	8.0	
MW233	13/04/2018	1.277	4.040	2.8997	1.623	3.04	30.0	229.4	281	8.1
	3/12/2018	3.317	4.050	2.8997	-0.417	1.43	32.1	NR	487	6.0
	6/05/2019	1.190	4.040	2.8997	1.710	4.49	31.5	336.0	2233.9	NR
	22/10/2019	2.367	4.037	2.8997	0.533	2.10	29.4	346.3	171.3	7.2
	17/04/2020	1.851	4.024	2.8997	1.049	6.35	32.1	173.1	374.2	8.0
	14/09/2020	2.297	4.030	2.8997	0.603	4.52	27.4	298.6	200.9	7.3
MW234	16/08/2017	1.600	7.770	3.2160	1.616	3.23	25.5	192.8	37196	7.0
	19/04/2018	1.487	7.750	3.2160	1.729	2.11	28.0	155.7	39780	7.3
	20/12/2018	1.325	7.775	3.2160	1.891	1.25	29.0	310.7	60693	6.8
	3/05/2019	1.610	7.750	3.2160	1.606	1.12	27.5	297.3	54704	7.3
	25/10/2019	2.280	7.776	3.2160	0.936	1.26	27.0	336.5	44039	6.9
	27/04/2020	1.871	7.739	3.2160	1.345	1.61	28.9	176.0	89442	6.7
	9/09/2020	1.073	7.720	3.2160	2.143	1.55	25.9	104.4	71392	6.5
	20/04/2021	1.571	7.720	3.2160	1.645	2.44	27.5	474.8	68413	6.3
	7/10/2021	2.267	7.720	3.2160	0.949	2.08	27.4	342.3	86944	6.6
	14/04/2022	1.985	7.350	3.2160	1.231	4.83	26.9	340.5	731	5.9
	12/10/2022	2.000	7.350	3.2160	1.216	0.34	25.3	199.6	53507	7.1
	4/05/2023	1.481	7.350	3.2160	1.735	2.46	27.7	148.2	114839	6.7
	12/10/2023	2.185	7.126	3.2160	1.031	1.79	27.0	183.0	92411	6.3
20/03/2024	1.367	7.310	3.2160	1.849	0.33	29.3	176.6	85213	6.7	
MW235	16/08/2017	1.468	6.863	3.3800	1.912	4.04	27.2	236.0	25214	7.0
	19/04/2018	1.998	6.820	3.3800	1.382	1.31	30.4	224.8	13039	7.3
	3/05/2019	1.573	6.820	3.3800	1.807	2.42	29.6	234.2	16322	7.6
	29/04/2020	1.844	6.823	3.3800	1.536	1.94	29.4	186.1	56606	6.9
	20/04/2021	1.407	6.820	3.3800	1.973	3.15	28.9	304.5	16598	7.4
	14/04/2022	1.918	6.640	3.3800	1.462	4.32	30.5	275.7	12624	7.2
	4/05/2023	1.479	6.640	3.3800	1.901	2.24	28.8	217.0	56194	6.9
	20/03/2024	1.447	6.590	3.3800	1.933	1.70	31.7	205.4	28740	7.1
MW241	16/08/2017	2.053	4.725	3.1140	1.061	0.31	27.5	169.9	29559	6.9
	12/04/2018	1.265	4.660	3.1140	1.849	1.68	28.7	284.4	15263	6.8
	17/12/2018	1.124	4.703	3.1140	1.990	1.64	31.0	323.7	22568	6.8
	1/05/2019	1.342	4.660	3.1140	1.772	1.39	28.9	261.8	12768	6.9
	17/10/2019	2.234	4.705	3.1140	0.880	0.68	27.7	194.8	12710	6.8
	29/04/2020	1.640	4.666	3.1140	1.474	0.53	30.8	162.2	15222	7.0
	9/09/2020	2.055	4.700	3.1140	1.059	2.53	28.1	52.0	17073	7.1
	28/04/2021	1.031	4.680	3.1140	2.083	4.50	27.2	253.8	12281	6.9
	12/10/2021	2.133	4.680	3.1140	0.981	2.70	28.1	192.0	12635	7.0
	13/04/2022	1.918	4.680	3.1140	1.196	1.97	30.1	210.5	22590	7.0
	10/10/2022	1.910	4.680	3.1140	1.204	0.59	26.7	294.1	10005	7.1
	27/04/2023	1.341	4.680	3.1140	1.773	2.24	30.8	278.1	11683	6.8
	10/10/2023	2.095	4.643	3.1140	1.019	3.11	27.7	163.7	9482	6.9
	14/03/2024	1.272	4.767	3.1140	1.842	1.13	30.5	220.0	13554	6.9
MW242	16/08/2017	1.794	4.920	3.0810	1.287	2.23	27.2	263.5	3610	7.4
	19/04/2018	1.465	4.890	3.0810	1.616	1.73	28.5	261.2	7096	6.4
	17/12/2018	1.015	4.871	3.0810	2.066	6.21	31.8	287.2	6334	7.4
	1/05/2019	1.448	4.890	3.0810	1.633	1.72	29.4	214.1	7540	7.1
	17/10/2019	2.160	4.897	3.0810	0.921	0.35	28.1	304.8	4828	7.4
	29/04/2020	1.545	4.819	3.0810	1.536	0.68	28.5	129.5	8236	7.7
	9/09/2020	1.965	4.830	3.0810	1.116	2.04	25.9	41.4	8336	6.6
	30/04/2021	1.332	4.810	3.0810	1.749	1.61	28.9	260.9	8934	7.3
	12/10/2021	2.034	4.810	3.0810	1.047	3.00	28.2	70.7	9592	7.5
	13/04/2022	1.693	4.820	3.0810	1.388	1.85	31.1	176.0	8837	7.2
	11/10/2022	1.865	4.820	3.0810	1.216	0.57	27.7	288.3	11347	7.6
	27/04/2023	1.426	4.820	3.0810	1.655	2.17	31.2	73.0	10500	7.2
	11/10/2023	1.889	4.789	3.0810	1.192	2.15	28.1	68.0	8459	7.4
15/03/2024	1.334	4.623	3.0810	1.747	0.65	31.5	263.4	11015	7.4	
MW243	17/08/2017	1.768	7.821	3.1260	1.358	2.39	27.6	243.3	53717	6.3
	17/04/2018	1.322	7.770	3.1260	1.804	2.84	29.9	316.6	53893	6.2
	17/12/2018	1.572	7.740	3.1260	1.554	1.32	30.0	379.2	58658	6.6
	1/05/2019	0.820	7.770	3.1260	2.306	1.15	28.5	330.4	57647	6.6
	17/10/2019	1.995	7.746	3.1260	1.131	1.18	28.2	379.8	44811	6.0
	29/04/2020	1.521	7.691	3.1260	1.605	0.31	30.2	213.8	66286	6.6
	9/09/2020	1.819	7.700	3.1260	1.307	2.56	26.0	110.8	40610	6.9
	30/04/2021	1.185	7.650	3.1260	1.941	1.74	27.8	271.8	66793	6.5
	14/10/2021	1.857	7.650	3.1260	1.269	2.32	29.0	304.5	67005	6.6
	12/04/2022	1.619	7.610	3.1260	1.507	1.88	30.1	288.0	66846	6.6
	11/10/2022	1.710	7.610	3.1260	1.416	0.71	26.3	386.5	61993	6.9
	4/05/2023	1.152	7.520	3.1260	1.974	3.18	28.9	234.3	81653	6.5
	11/10/2023	1.819	7.535	3.1260	1.307	2.23	27.6	277.9	61859	6.6
	22/03/2024	1.208	7.580	3.1260	1.918	2.54	29.6	423.2	53669	6.7
MW244	15/08/2017	1.240	4.690	2.2730	1.033	91.90	26.1	284.6	54549	7.0
	19/04/2018	0.745	4.700	2.2730	1.528	NR	28.3	361.9	59467	6.8
	19/12/2018	0.040	4.700	2.2730	2.233	3.26	30.3	574.9	32641	8.8
	29/04/2019	0.878	4.700	2.2730	1.395	1.21	29.5	404.8	52761	6.7
	18/10/2019	1.535	4.432	2.2730	0.738	1.18	27.6	292.3	45255	6.5
	29/04/2020	1.135	4.328	2.2730	1.138	1.02	31.9	127.3	59556	6.8
	7/09/2020	1.165	4.130	2.2730	1.108	0.37	24.3	69.8	30024	6.2
	16/10/2021	1.401	4.020	2.2730	0.872	2.73	30.2	74.8	7006	6.8
	13/04/2022	1.140	4.080	2.2730	1.133	2.67	29.7	44.9	2451	6.9
	11/10/2022	1.895	4.080	2.2730	0.378	0.43	26.2	58.5	956	7.3
	4/05/2023	0.915	4.680	2.2730	1.358	2.69	29.2	82.0	13379	6.7
	11/10/2023	1.940	4.688	2.2730	0.333	2.32	27.8	78.6	7267	7.1
	19/03/2024	1.005	4.700	2.2730	1.268	0.71	31.4	99.4	3009	7.2

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW245	17/08/2017	1.707	5.174	3.2950	1.588	0.49	26.4	167.0	10769	6.0
	17/04/2018	1.343	5.150	3.2950	1.952	0.82	29.7	147.4	5962	6.2
	17/12/2018	1.056	5.114	3.2950	2.239	2.22	30.9	590.4	1582	6.8
	1/05/2019	1.430	5.150	3.2950	1.865	1.13	28.2	219.2	6861	5.8
	15/10/2019	2.193	5.150	3.2950	1.102	1.04	27.0	204.2	9021	5.7
	27/04/2020	1.533	5.095	3.2950	1.762	1.69	28.9	212.0	9914	5.2
	7/09/2020	1.659	5.010	3.2950	1.636	2.31	25.2	121.5	9054	5.3
	30/04/2021	1.166	5.020	3.2950	2.129	1.80	27.9	146.8	3275	7.0
	13/10/2021	1.768	5.020	3.2950	1.527	1.24	27.4	163.5	12054	5.5
	12/04/2022	1.469	5.000	3.2950	1.826	1.40	29.7	157.1	7032	6.3
	12/10/2022	1.580	5.000	3.2950	1.715	0.35	26.5	193.1	4129	7.2
	4/05/2023	1.227	4.930	3.2950	2.068	3.69	28.9	79.3	6391	6.9
	11/10/2023	1.618	4.987	3.2950	1.677	1.95	27.4	119.7	6785	6.4
25/03/2024	1.165	5.040	3.2950	2.130	4.49	28.7	230.5	1180	6.2	
MW255	19/04/2018	1.293	8.330	3.1213	1.828	1.60	29.4	234.9	69925	6.6
	20/12/2018	1.290	6.865	3.1213	1.831	0.75	29.2	345.0	80182	6.8
	3/05/2019	1.373	8.330	3.1213	1.748	1.25	29.1	278.4	85749	6.4
	25/10/2019	2.085	8.315	3.1213	1.036	0.46	28.0	329.2	83186	5.9
	4/05/2020	1.624	8.275	3.1213	1.497	1.86	29.4	205.9	15130	5.9
	9/09/2020	1.814	8.310	3.1213	1.307	1.62	25.2	125.4	84009	5.7
	20/04/2021	1.308	4.970	3.1213	1.813	1.78	28.4	374.6	84984	6.0
	7/10/2021	1.980	4.970	3.1213	1.141	1.14	27.8	326.6	108128	6.6
	14/04/2022	2.728	8.270	3.1213	0.393*	3.65	29.1	303.2	1130	5.9
	12/10/2022	1.750	8.270	3.1210	1.371	Insufficient water for parameters. Sampled				
	4/05/2023	1.227	8.270	3.1210	1.894	1.90	28.4	209.5	127978	6.0
	12/10/2023	1.885	8.151	3.1213	1.236	1.81	27.6	245.3	100399	5.5
	20/03/2024	1.116	8.140	3.1210	2.005	0.30	29.4	196.0	109070	5.8
MW265	17/04/2018	1.533	5.816	3.2758	1.743	1.85	29.4	230.8	45129	7.0
	17/12/2018	1.042	5.821	3.2758	2.234	3.78	29.9	612.5	24287	6.4
	2/05/2019	1.638	5.816	3.2758	1.638	1.42	30.2	314.2	43098	7.3
	17/10/2019	2.280	5.825	3.2758	0.996	0.65	27.3	394.0	34469	7.1
	29/04/2020	1.863	5.804	3.2758	1.413	0.62	31.9	194.7	32958	NR
	9/09/2020	2.550	5.810	3.2758	0.726	2.06	25.3	73.7	44547	6.7
	28/04/2021	1.212	5.800	3.2760	2.064	3.20	26.7	234.7	50162	6.9
	12/10/2021	2.050	5.800	3.2760	1.226	2.88	29.1	209.0	37134	7.1
	12/04/2022	1.961	5.800	3.2760	1.315	1.85	29.8	308.9	53081	6.8
	11/10/2022	2.065	5.800	3.2760	1.211	0.44	25.0	421.0	47956	6.9
	4/05/2023	1.355	5.790	3.2760	1.921	4.36	28.2	134.0	70698	7.0
	11/10/2023	2.105	5.767	3.2758	1.171	3.25	26.1	242.1	49852	7.0
	22/03/2024	1.540	5.773	3.2760	1.736	2.42	28.4	340.8	47845	7.2
MW300	30/04/2021	1.388	6.460	5.0720	3.684	8.14	17.6	219.2	4396	6.0
	6/10/2021	2.222	6.460	5.0720	2.850	1.95	27.0	218.4	3724	5.6
	14/04/2022	1.910	6.910	5.0720	3.162	2.63	26.7	230.0	6069	5.5
	07/10/2022	1.965	6.910	5.0720	3.107	0.80	25.0	327.8	3014	6.5
	4/05/2023	1.591	6.700	5.0700	3.479	2.91	27.8	177.9	8756	6.0
	10/10/2023	2.044	6.693	5.0700	3.026	2.47	27.4	177.1	2114	6.1
	21/03/2024	1.534	6.725	5.0700	3.536	0.75	29.2	77.2	3113	6.1
MW470	14/08/2017	3.661	4.373	5.1360	1.475	0.58	29.2	255.7	1347	4.6
	20/12/2018	3.361	4.380	5.1360	1.775	3.51	31.2	348.0	3195	6.6
	10/05/2019	3.133	4.362	5.1360	2.003	3.00	26.8	322.5	120.1	6.6
	30/04/2020	3.288	4.374	5.1360	1.848	1.98	30.7	202.8	703	6.0
	23/09/2020	3.890	4.355	5.1360	1.246	4.83	27.9	319.8	1286	5.7
	30/04/2021	-	4.139	5.1360	N/A	4.49	21.5	289.6	846	6.3
	14/10/2021	3.905	4.139	5.1360	1.231	3.36	31.5	291.5	418	6.1
	22/04/2022	3.493	4.360	5.1360	1.643	4.69	26.3	373.3	240	7.5
	19/10/2022	3.720	4.360	5.1360	1.416	Insufficient water for parameters. Sampled				
	4/05/2023	3.225	4.302	5.1360	1.911	6.91	28.0	178.5	1335	6.6
	12/10/2023	3.785	4.275	5.1360	1.351	6.84	27.9	321.6	5536	5.8
22/03/2024	3.045	4.290	5.1360	2.091	Insufficient water for parameters. Sampled					
Off-Base										
MW201	18/08/2017	2.247	5.965	3.1320	0.885	4.33	26.5	201.6	34402	6.8
	20/04/2018	1.559	5.593	3.1320	1.573	1.89	28.1	231.7	36570	7.0
	23/10/2019	2.296	5.902	3.1320	0.836	3.69	27.5	365.8	22042	7.9
	17/04/2020	1.755	5.905	3.1320	1.377	2.82	30.6	166.6	32082	8.0
	6/05/2021	0.721	5.680	3.1320	2.411	2.01	30.0	302.0	47679	6.8
	21/04/2022	2.148	5.880	3.1320	0.984	4.13	26.4	319.2	52341	6.8
	3/05/2023	1.566	5.910	3.1320	1.566	6.37	27.9	297.4	23117	7.8
	22/03/2024	1.396	5.833	3.1320	1.736	4.11	28.8	246.7	37052	7.3
MW202	18/08/2017	1.850	6.032	2.9040	1.054	3.57	25.3	212.3	84642	6.7
	20/04/2018	1.032	6.000	2.9040	1.872	1.51	28.2	233.5	93972	6.8
	10/05/2019	1.313	6.000	2.9040	1.591	3.17	27.7	315.8	84551	7.3
	23/10/2019	2.173	6.025	2.9040	0.731	2.98	27.2	378.3	78205	7.5
	17/04/2020	1.434	6.000	2.9040	1.470	1.98	30.0	191.6	129746	6.8
	6/05/2021	0.721	5.770	2.9040	2.183	1.06	28.7	304.6	26356	6.6
	21/04/2022	1.765	5.920	2.9040	1.139	2.29	26.7	325.7	102395	6.4
	3/05/2023	1.389	6.010	2.9040	1.515	3.15	28.7	349.4	100571	6.6
22/03/2024	0.832	5.972	2.9040	2.072	2.64	28.0	313.2	82753	7.0	
MW203	18/08/2017	1.645	4.795	2.7850	1.140	1.26	27.1	214.5	96600	6.2
	20/04/2018	1.358	4.720	2.7850	1.427	1.51	29.5	233.5	120406	6.2
	10/05/2019	1.335	4.720	2.7850	1.450	2.90	28.1	248.4	53206	6.4
	23/10/2019	1.678	4.778	2.7850	1.107	0.83	27.2	268.1	97070	5.7
	17/04/2020	1.352	4.720	2.7850	1.433	2.38	31.0	92.9	1472	6.2
	6/05/2021	1.236	4.690	2.7850	1.549	0.14	29.0	15.7	54505	6.4
	21/04/2022	1.485	4.720	2.7850	1.300	1.49	27.0	65.3	133650	6.1
	3/05/2023	1.310	4.770	2.7850	1.475	2.27	30.0	64.5	138829	6.2
22/03/2024	1.239	4.745	2.7850	1.546	3.19	29.3	100.7	77492	6.9	
MW204	17/08/2017	3.537	5.035	4.7590	1.222	3.25	27.3	154.8	970	7.2
	13/04/2018	2.603	5.010	4.7590	2.156	301.00	29.4	247.8	162.9	6.8
	6/05/2019	2.655	5.010	4.7590	2.104	3.84	29.1	305.1	147	6.4
	23/10/2019	3.475	4.940	4.7590	1.284	2.05	26.1	283.5	2244	7.0
	17/04/2020	2.890	4.900	4.7590	1.869	2.62	30.4	160.7	1793	7.5
	27/04/2021	2.595	4.920	4.7590	2.164	4.91	27.8	238.5	7955	6.3
	14/04/2022	3.075	4.950	4.7590	1.684	4.50	29.9	323.4	8265	6.2
	21/04/2023	2.716	4.930	4.7590	2.043	1.13	28.8	175.1	2427	6.2
21/03/2024	2.568	4.992	4.7590	2.191	3.77	30.4	279.0	1425	5.9	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW205	17/08/2017	1.970	5.050	3.2390	1.269	0.58	25.1	248.3	16963	5.2
	13/04/2018	1.264	5.005	3.2390	1.975	2.93	27.9	295.6	10786	5.2
	11/12/2018	2.569	5.000	3.2390	0.670	1.50	28.1	318.9	22129	5.0
	6/05/2019	1.282	5.005	3.2390	1.957	2.11	26.7	211.9	14898	5.4
	23/10/2019	2.295	5.000	3.2390	0.944	1.41	25.5	252.3	15827	5.2
	17/04/2020	1.542	4.980	3.2390	1.697	2.19	29.3	186.5	21945	5.1
	14/09/2020	2.166	4.980	3.2390	1.073	1.45	24.9	274.3	26665	5.3
	27/04/2021	1.168	4.990	3.2390	2.071	2.51	26.7	244.4	16681	5.0
	12/10/2021	2.076	4.990	3.2390	1.163	0.91	26.4	111.6	17386	5.1
	14/04/2022	1.925	4.960	3.2390	1.314	2.63	28.9	165.9	19436	5.1
	08/10/2022	1.745	4.960	3.2390	1.494	0.82	24.9	161.7	18787	6.3
	21/04/2023	1.295	5.000	3.2390	1.944	1.37	27.3	150.9	9386	5.4
10/10/2023	2.045	4.985	3.2390	1.194	0.97	25.3	52.5	11547	5.4	
19/03/2024	1.225	4.975	3.2390	2.014	2.67	27.3	187.6	9978	6.1	
MW206	17/08/2017	1.747	5.032	3.2800	1.533	0.02	26.2	416.4	10513	3.4
	16/04/2018	0.725	4.190	3.2800	2.555	0.69	29.0	271.2	7555	4.2
	11/12/2018	2.121	3.750	3.2800	1.159	5.12	27.3	404.2	1103	4.6
	6/05/2019	0.805	4.190	3.2800	2.475	1.53	28.2	141.9	848	7.2
	23/10/2019	1.530	3.720	3.2800	1.750	1.08	25.1	341.7	8375	3.6
	17/04/2020	0.893	3.634	3.2800	2.387	2.76	28.6	239.4	11732	3.6
	14/09/2020	2.166	4.980	3.2800	1.114	3.04	23.7	420.6	12427	3.3
	27/04/2021	1.329	4.400	3.2110	1.882	2.95	27.4	567.1	2200	3.4
	12/10/2021	2.098	4.400	3.2110	1.113	1.15	26.4	500.2	11411	3.4
	14/04/2022	1.885	4.430	3.2110	1.326	3.63	28.9	432.6	9287	3.5
	06/10/2022	1.862	4.430	3.2110	1.349*	1.01	25.5	450.0	9138	3.3
	21/04/2023	1.495	4.400	3.2800	1.785	1.47	28.4	206.0	2731	4.3
	10/10/2023	2.035	4.389	3.2800	1.245	1.28	26.3	442.5	10224	3.4
	25/03/2024	1.154	4.430	3.2800	2.126	2.86	27.7	395.3	5568	3.6
MW207	17/08/2017	2.961	6.699	3.8250	0.864	1.68	26.1	476.4	26060	3.2
	13/04/2018	1.893	6.622	3.8250	1.932	0.60	29.2	371.0	28620	3.7
	11/12/2018	3.442	6.395	3.8250	0.383	3.06	26.9	391.6	38617	5.1
	6/05/2019	1.810	6.622	3.8250	2.015	4.95	28.2	243.0	7427	4.1
	23/10/2019	3.025	6.349	3.8250	0.800	0.50	26.0	375.5	20554	3.4
	17/04/2020	2.233	6.250	3.8250	1.592	1.83	28.0	187.7	40024	4.9
	14/09/2020	3.049	6.230	3.8250	0.776	2.06	23.9	388.3	34470	3.8
	27/04/2021	1.641	6.270	3.8250	2.184	3.43	26.5	420.1	27776	3.9
	12/10/2021	2.860	6.270	3.8250	0.965	1.52	26.9	376.3	31495	4.3
	14/04/2022	2.662	6.230	3.8250	1.163	3.17	28.5	327.3	33258	3.8
	06/10/2022	NA	6.230	3.8250	NA	Insufficient water for parameters. Sampled				
	21/04/2023	1.842	6.220	3.8250	1.983	1.73	26.6	193.8	22811	4.1
	12/10/2023	2.825	6.222	3.8250	1.000	1.68	27.3	232.7	25535	4.1
	21/03/2024	2.069	6.344	3.8250	1.756	2.56	29.8	562.8	20898	3.2
MW208	17/08/2017	2.692	4.950	4.0600	1.368	1.49	28.0	314.4	4477	6.4
	11/04/2018	2.180	4.925	4.0600	1.880	1.42	29.0	-4.2	2433	7.3
	11/12/2018	3.245	4.940	4.0600	0.815	1.88	28.4	369.1	7636	6.9
	6/05/2019	2.363	4.925	4.0600	1.697	2.13	28.9	122.1	9699	7.2
	23/10/2019	3.114	4.832	4.0600	0.946	0.24	27.5	272.2	5837	6.6
	17/04/2020	2.140	4.752	4.0600	1.920	2.62	28.8	62.1	1477	7.3
	14/09/2020	2.624	4.760	4.0600	1.436	2.62	26.2	277.7	4436	6.6
	27/04/2021	2.232	4.760	4.0600	1.828	4.06	28.5	116.4	2215	7.2
	12/10/2021	3.043	4.760	4.0600	1.017	0.39	27.1	13.5	4359	6.8
	14/04/2022	2.738	4.750	4.0600	1.322	2.09	28.7	56.1	4236	6.9
	06/10/2022	2.800	4.750	4.0600	1.260	7.40	27.0	295.4	28905	4.8
	21/04/2023	2.317	4.790	4.0600	1.743	0.81	27.3	24.3	1049	7.2
	12/10/2023	2.935	4.695	4.0600	1.125	0.71	27.1	52.1	2493	7.0
	21/03/2024	2.218	4.650	4.0600	1.842	1.42	30.4	108.4	1454	6.9
MW209	14/08/2017	2.734	5.200	3.8560	1.122	1.61	27.8	116.4	1269	6.7
	11/04/2018	1.845	2.400	3.8560	2.011	1.06	28.9	43.5	1664	6.9
	6/05/2019	1.990	2.400	3.8560	1.866	2.67	28.4	84.2	960	7.2
MW210	14/08/2017	3.756	5.295	4.9070	1.151	0.97	28.0	108.4	681	7.1
	11/04/2018	2.956	6.254	4.9070	1.951	0.78	28.3	159.4	739	7.3
MW211	15/08/2017	3.709	5.950	4.9900	1.281	0.84	28.0	103.6	858	7.2
	11/04/2018	3.226	5.908	4.9900	1.764	1.33	29.8	183.5	1093	7.4
	3/12/2018	4.015	5.881	4.9900	0.975	0.39	30.2	525.0	1143	7.0
	6/05/2019	3.450	5.908	4.9900	1.540	1.23	27.7	205.8	1349	7.2
	25/04/2020	3.475	5.488	4.9900	1.515	1.55	28.6	154.9	1796	7.2
	24/09/2020	3.769	5.250	4.9900	1.221	0.65	29.0	171.5	1815	6.9
	27/04/2021	3.344	5.240	4.9900	1.646	2.27	26.0	73.6	1123	6.7
	13/10/2021	3.869	5.240	4.9900	1.121	0.40	29.3	341.9	1748	-
	19/04/2022	3.571	5.050	4.9900	1.419	2.47	29.7	13.0	1186	7.0
	08/10/2022	3.670	5.050	4.9900	1.320	0.80	26.4	70.7	965	7.8
	25/04/2023	3.144	5.150	4.9900	1.846	2.62	30.7	69.0	1093	7.3
	12/10/2023	3.654	5.035	4.9900	1.336	0.82	28.0	-0.2	1815	7.5
	21/03/2024	3.233	4.961	4.9900	1.757	3.06	30.6	179.0	1125	7.1
	MW212	15/08/2017	1.291	4.125	2.8350	1.544	20.90	27.3	143.3	705
11/04/2018		0.835	4.113	2.8350	2.000	0.64	28.8	55.2	1370	7.0
4/12/2018		1.661	4.125	2.8350	1.174	3.48	33.1	610.4	58644	6.8
6/05/2019		1.000	4.113	2.8350	1.835	1.30	27.9	64.9	1001	7.7
22/10/2019		1.710	4.120	2.8350	1.125	1.40	27.5	306.2	2175	7.5
20/04/2020		1.056	4.065	2.8350	1.779	2.28	30.5	155.7	1052	6.5
16/09/2020		1.595	4.070	2.8350	1.240	0.76	25.9	188.0	3604	6.8
21/04/2021		0.897	4.100	2.8350	1.938	3.14	27.8	125.5	657	6.7
12/10/2021		1.588	4.100	2.8350	1.247	1.23	33.6	141.9	1510	6.7
14/04/2022		1.258	4.110	2.8350	1.577	4.55	29.8	127.1	2093	6.9
06/10/2022		1.430	4.110	2.8350	1.405	0.89	28.2	170.9	2441	7.1
25/04/2023		1.005	3.930	2.8350	1.830	2.48	33.4	88.3	1023	6.8
10/10/2023		1.371	4.040	2.8350	1.464	1.30	27.1	62.8	2044	6.8
21/03/2024		0.913	3.920	2.8350	1.922	1.40	28.8	60.9	1743	6.6

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW213	15/08/2017	2.446	5.160	3.7620	1.316	1.81	27.3	180.3	6604	6.0
	11/04/2018	1.773	5.146	3.7620	1.989	1.05	29.1	111.5	16.32	6.7
	6/12/2018	2.960	5.053	3.7620	0.802	0.09	29.9	535.6	32099	5.3
	6/05/2019	1.961	5.146	3.7620	1.801	1.21	27.1	81.8	4299	7.3
	24/10/2019	2.595	5.000	3.7620	1.167	0.98	26.9	126.6	8726	6.2
	20/04/2020	2.018	4.830	3.7620	1.744	1.31	31.5	138.7	12950	6.7
	21/09/2020	2.526	5.120	3.7620	1.236	2.22	29.2	213.3	9587	6.8
	27/04/2021	1.900	5.160	3.7620	1.862	3.18	29.0	163.3	6557	6.4
	12/10/2021	2.605	5.160	3.7620	1.157	0.68	29.9	111.8	5801	6.4
	14/04/2022	2.291	4.640	3.7620	1.471	4.05	30.4	156.5	5448	7.1
	08/10/2022	2.495	4.640	3.7620	1.267	0.51	27.8	166.1	8971	6.9
	25/04/2023	2.027	4.810	3.7620	1.735	2.32	30.6	180.9	2350	6.2
13/10/2023	2.610	4.435	3.7620	1.152	0.43	27.4	73.8	3069	6.5	
21/03/2024	1.877	4.932	3.7620	1.885	1.40	29.5	155.3	1856	5.7	
MW214	15/08/2017	2.841	5.135	3.6630	0.822	1.01	26.0	216.3	48463	6.7
	11/04/2018	2.293	5.126	3.6630	1.370	0.83	30.9	218.1	36932	7.1
	12/12/2018	2.710	4.985	3.6630	0.953	3.26	30.5	375.2	56024	6.9
	7/05/2019	2.475	5.126	3.6630	1.188	3.05	29.1	340.7	34659	6.7
	24/10/2019	2.710	4.985	3.6630	0.953	3.54	27.2	345.6	49841	6.7
	20/04/2020	2.451	4.940	3.6630	1.212	3.72	33.5	195.9	64389	6.8
	16/09/2020	2.615	5.270	3.6630	1.048	5.27	26.2	300.5	58693	6.8
	27/04/2021	2.385	4.900	3.6630	1.278	4.78	28.0	286.4	49035	6.6
	12/10/2021	2.791	4.900	3.6630	0.872	2.75	28.0	257.5	58421	6.9
	14/04/2022	2.570	4.930	3.6630	1.093	3.69	29.3	315.6	59116	6.4
	06/10/2022	2.650	4.930	3.6630	1.013	2.36	27.4	362.6	55317	6.8
	21/04/2023	2.672	4.880	3.6630	0.991	2.39	24.7	227.0	41835	6.8
	10/10/2023	2.643	4.901	3.6630	1.020	2.69	27.0	229.4	58783	6.9
	20/03/2024	2.230	4.920	3.6630	1.433	1.82	30.6	214.2	42716	6.7
MW215	15/08/2017	2.748	6.902	3.2690	0.521	1.11	26.9	204.8	10766	6.5
	11/04/2018	2.406	6.896	3.2690	0.863	1.26	28.0	225.6	6881	6.5
	13/12/2018	2.925	6.741	3.2690	0.344	1.14	28.0	351.6	10756	7.0
	7/05/2019	2.610	6.896	3.2690	0.659	1.43	27.9	316.4	9243	6.8
	24/10/2019	2.740	6.615	3.2690	0.529	1.24	26.5	280.5	8292	6.9
	20/04/2020	2.594	6.565	3.2690	0.675	2.07	30.6	204.6	8667	6.9
	16/09/2020	2.808	6.840	3.2690	0.461	2.16	25.6	303.4	10754	6.5
	27/04/2021	2.454	6.550	3.2690	0.815	3.93	27.5	276.2	5990	7.1
	12/10/2021	1.680	6.550	3.2690	1.589	1.35	29.0	266.5	10190	6.7
	14/04/2022	2.578	6.550	3.2690	0.691	3.12	30.4	282.1	6220	6.5
	06/10/2022	2.605	6.550	3.2690	0.664	1.36	27.4	338.6	1603	6.6
	21/04/2023	2.680	6.340	3.2690	0.589	1.22	24.8	81.4	2434	6.6
	13/10/2023	2.754	6.281	3.2690	0.515	0.39	26.8	7.0	2599	6.5
	21/03/2024	1.569	6.250	3.2690	1.700	2.09	29.4	129.3	1011	6.5
MW216	15/08/2017	1.672	4.425	3.5440	1.872	1.37	27.7	172.6	537	6.4
	11/04/2018	1.308	4.418	3.5440	2.236	2.00	29.5	229.2	1631	6.5
	4/12/2018	1.740	4.415	3.5440	1.804	0.18	31.9	550.4	432.9	5.9
	9/05/2019	1.390	4.418	3.5440	2.154	1.22	27.9	313.6	353.3	7.0
	22/10/2019	1.590	4.598	3.5440	1.954	0.62	28.6	369.1	262.3	7.0
	21/04/2020	1.451	4.334	3.5440	2.093	2.50	32.3	130.7	512	6.5
	14/09/2020	1.989	4.340	3.5440	1.555	1.79	25.8	454.7	1638	3.6
	27/04/2021	1.304	4.320	3.5440	2.240	3.59	29.0	248.5	515	6.2
	12/10/2021	1.642	4.320	3.5440	1.902	0.38	29.1	236.8	488.6	6.4
	14/04/2022	1.474	4.280	3.5440	2.070	1.70	33.4	237.4	518	6.0
	06/10/2022	1.535	4.280	3.5440	2.009	0.62	28.3	341.1	498.7	6.7
	21/04/2023	1.363	4.210	3.5440	2.181	1.47	28.0	163.3	370	6.0
	10/10/2023	1.555	4.231	3.5440	1.989	1.50	28.8	152.9	1236	6.5
	19/03/2024	1.285	4.250	3.5440	2.259	4.17	30.5	265.1	2502	6.7
MW217	15/08/2017	1.773	4.975	3.2710	1.498	4.21	28.5	304.2	26570	6.5
	11/04/2018	1.330	5.955	3.2710	1.941	1.08	29.4	238.0	31731	6.7
	13/12/2018	1.785	5.885	3.2710	1.486	1.21	29.6	350.5	34594	6.8
	8/05/2019	1.314	5.955	3.2710	1.957	NR	29.6	306.8	24336	7.4
	24/10/2019	2.103	5.845	3.2710	1.168	1.93	26.2	380.1	22737	7.0
	20/04/2020	1.515	5.830	3.2710	1.756	2.39	31.1	98.5	20833	6.7
	16/09/2020	1.987	5.830	3.2710	1.284	1.40	27.1	199.1	39850	6.4
	29/04/2021	1.389	5.780	3.2710	1.882	3.17	28.1	336.0	33509	6.6
	14/10/2021	1.929	5.780	3.2710	1.342	4.10	29.4	429.4	34859	6.8
	14/04/2022	1.649	4.800	3.2710	1.622	2.94	30.8	318.0	35007	7.3
	05/10/2022	1.705	4.800	3.2710	1.566	2.29	27.5	275.6	13814	7.5
	21/04/2023	1.415	5.700	3.2710	1.856	1.12	30.4	170.2	16825	7.4
	10/10/2023	1.810	5.645	3.2710	1.461	1.58	29.1	74.6	30220	6.9
	19/03/2024	1.391	5.770	3.2710	1.880	3.41	32.2	245.7	38571	7.2
MW218	15/08/2017	1.499	5.500	2.9080	1.409	3.33	28.9	167.5	34493	6.7
	10/04/2018	0.955	5.754	2.9080	1.953	0.84	32.0	248.1	37285	6.4
	4/12/2018	1.731	5.345	2.9080	1.177	0.18	32.9	576.2	26687	6.1
	7/05/2019	1.035	5.754	2.9080	1.873	2.06	31.4	275.2	9146	7.1
	22/10/2019	1.743	5.289	2.9080	1.165	1.23	29.5	403.2	17905	6.7
	20/04/2020	1.176	5.210	2.9080	1.732	1.74	32.1	141.6	41866	6.5
	16/09/2020	1.572	5.230	2.9080	1.336	1.67	26.6	277.9	32906	6.3
	27/04/2021	0.955	5.230	2.9080	1.953	2.08	28.0	297.2	30797	6.4
	12/10/2021	1.520	5.230	2.9080	1.388	0.32	28.4	348.3	32990	6.4
	14/04/2022	1.276	5.170	2.9080	1.632	1.32	33.2	304.4	33929	6.8
	06/10/2022	1.330	5.170	2.9080	1.578	5.50	27.3	368.8	29932	6.6
	25/04/2023	0.975	4.970	2.9080	1.933	Insufficient water for parameters. Sampled				
	10/10/2023	1.421	5.010	2.9080	1.487	0.84	29.1	116.3	31951	6.6
	19/03/2024	0.935	5.005	2.9080	1.973	2.78	31.7	301.1	40131	6.7

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW219	15/08/2017	2.818	9.610	4.4080	1.590	2.16	29.3	217.1	10452	6.7
	10/04/2018	1.990	9.485	4.4080	2.418	1.16	31.7	211.4	9953	7.0
	4/12/2018	2.797	9.276	4.4080	1.611	0.46	30.3	486.8	8983	6.5
	7/05/2019	1.875	9.485	4.4080	2.533	1.98	30.2	249.5	3444	7.2
	22/10/2019	2.663	9.281	4.4080	1.745	0.44	28.6	434.6	7463	7.0
	20/04/2020	2.082	9.200	4.4080	2.326	2.51	30.4	147.1	12224	7.1
	16/09/2020	2.487	9.080	4.4080	1.921	2.00	26.2	364.8	9999	6.6
	29/04/2021	1.781	9.740	4.4080	2.627	4.03	27.9	217.7	10887	7.0
	12/10/2021	2.338	9.740	4.4080	2.070	0.59	28.8	205.1	6927	7.0
	14/04/2022	2.010	6.030	4.4080	2.398	3.53	30.0	271.6	9635	7.1
	19/10/2022	2.150	6.030	4.4080	2.258	0.94	27.7	324.1	7613	6.7
	20/04/2023	1.320	8.720	4.4080	3.088	1.20	28.1	133.6	5563	7.1
13/10/2023	2.114	8.621	4.4080	2.294	1.83	29.1	196.2	8244	7.0	
20/03/2024	1.885	8.985	4.4080	2.523	2.69	30.2	221.3	7741	7.2	
MW220	15/08/2017	1.962	4.750	4.1830	2.221	0.47	30.8	212.8	21743	6.3
	10/04/2018	1.156	6.383	4.1830	3.027	1.48	32.3	243.7	11360	6.5
	7/05/2019	1.259	5.725	4.1830	2.924	0.95	31.8	187.2	11950	7.6
	21/04/2020	1.505	5.455	4.1830	2.678	2.06	33.0	89.1	13737	6.6
	30/04/2021	0.729	5.390	4.1830	3.454	3.54	25.7	222.1	2861	6.9
	14/04/2022	1.500	5.550	4.1830	2.683	2.19	31.3	154.7	7406	7.1
	20/04/2023	0.921	5.450	4.1830	3.262	1.10	31.2	228.2	796	7.0
	20/03/2024	0.854	6.216	4.1830	3.329	2.29	31.4	123.5	1229	7.1
MW221	15/08/2017	1.702	5.784	3.8130	2.111	3.03	28.7	177.0	18753	6.8
	10/04/2018	1.272	5.804	3.8130	2.541	1.00	31.0	217.0	16167	6.7
	8/05/2019	1.259	6.383	3.8130	2.554	0.95	31.8	187.2	11950	7.6
	22/10/2019	1.774	5.637	3.8130	2.039	0.55	29.8	406.7	15158	6.5
	21/04/2020	1.448	5.584	3.8130	2.365	2.31	32.0	167.0	13412	6.8
	16/09/2020	1.697	5.620	3.8130	2.116	2.37	26.1	323.5	14958	6.5
	29/04/2021	1.226	5.560	3.8130	2.587	1.78	27.8	195.8	13930	6.5
	14/10/2021	1.746	5.560	3.8130	2.067	2.25	28.6	253.2	15870	6.8
	20/04/2022	1.584	5.430	3.8130	2.229	3.24	32.5	89.3	10875	6.8
	05/10/2022	1.781	5.430	3.8130	2.032	0.65	29.1	229.5	11508	7.4
	21/04/2023	1.298	5.400	3.8130	2.515	1.13	30.0	116.8	4715	6.9
	10/10/2023	1.611	5.368	3.8130	2.202	1.35	28.5	-23.8	7046	6.7
19/03/2024	1.205	5.410	3.8130	2.608	2.37	32.2	134.4	3697	6.7	
MW225	15/08/2017	2.275	7.052	5.5850	3.310	1.04	30.6	148.1	1582	7.7
	10/04/2018	1.408	6.910	5.5850	4.177	0.61	32.3	201.7	3285	7.0
	4/12/2018	2.661	6.881	5.5850	2.924	0.68	33.1	474.7	1740	7.2
	7/05/2019	1.645	6.910	5.5850	3.940	2.08	27.7	358.4	9167	6.5
	22/10/2019	2.620	6.865	5.5850	2.965	1.17	30.6	325.2	1857	6.8
	4/05/2020	1.994	6.802	5.5850	3.591	3.56	27.5	249.6	15.2	7.5
	14/09/2020	2.520	6.802	5.5850	3.065	2.97	28.4	325.3	2855	6.7
	29/04/2021	1.423	6.840	5.5850	4.162	3.47	29.9	207.7	3151	7.0
	14/10/2021	2.441	6.840	5.5850	3.144	3.19	29.6	236.0	2960	7.5
	14/04/2022	2.005	6.820	5.5850	3.580	1.32	31.6	284.1	2707	7.3
	19/10/2022	2.250	6.820	5.5850	3.335	0.52	27.6	283.5	82555	4.7
	20/04/2023	1.520	6.800	5.5850	4.065	1.83	29.0	240.7	1806	7.2
10/10/2023	2.350	6.805	5.5850	3.235	1.79	29.7	211.5	2194	7.4	
19/03/2024	1.385	6.824	5.5850	4.200	3.13	30.8	284.5	2745	7.6	
MW231	18/04/2018	2.445	5.800	3.0130	0.568	0.64	29.7	252.8	21589	6.3
	9/05/2019	2.565	5.800	3.0130	0.448	2.29	26.5	315.6	10600	6.7
	23/10/2019	2.765	5.650	3.0130	0.248	0.38	28.0	397.3	49331	6.8
	20/04/2020	2.459	5.632	3.0130	0.554	2.96	28.7	242.0	43699	6.8
	28/04/2021	2.317	5.620	3.0130	0.696	1.89	24.2	200.0	31645	6.8
	21/04/2022	2.512	5.600	3.0130	0.501	2.71	27.7	403.2	37694	6.6
	11/04/2023	2.696	5.640	3.0130	0.317	4.98	29.8	138.4	17660	7.2
	19/03/2024	1.282	5.600	3.0130	1.731	0.81	30.2	64.3	23555	7.2
	27/04/2021	1.204	4.030	2.9000	1.696	6.69	27.3	257.7	354.4	7.5
	12/10/2021	2.252	4.030	2.9000	0.648	2.44	28.6	161.3	475	7.7
	14/04/2022	1.985	4.360	2.9000	0.915	6.28	30.7	203.1	457	7.7
	06/10/2022	1.995	4.360	2.9000	0.905	2.82	28.6	283.2	233.2	8.3
	14/04/2023	1.480	4.040	2.9000	1.420	6.71	32.2	283.4	11.8	7.3
	13/10/2023	2.119	4.015	2.8997	0.781	3.44	28.3	186.1	359.2	7.7
21/03/2024	1.282	4.002	2.9000	1.618	6.15	32.5	208.9	291	7.3	
MW236	15/08/2017	2.940	6.907	5.4410	2.501	3.39	29.9	180.0	12754	6.9
	10/04/2018	2.015	7.030	5.4410	3.426	0.82	31.5	232.8	10480	6.7
	7/05/2019	2.165	7.030	5.4410	3.276	1.14	29.3	264.8	3985	7.8
	21/04/2020	2.637	6.630	5.4410	2.804	1.60	29.7	257.0	15726	6.7
	21/04/2021	2.369	6.620	5.4410	3.072	3.58	29.4	292.6	5668	7.1
	21/04/2022	2.746	6.700	5.4410	2.695	3.85	29.9	316.3	9682	7.0
	12/04/2023	2.158	5.340	5.4410	3.283	3.11	32.2	267.2	850	7.7
	18/03/2024	2.013	5.219	5.4410	3.428	2.27	29.8	137.1	862	7.6
MW237	19/04/2018	2.236	6.770	8.0500	5.814	0.96	29.0	94.2	10256	7.2
	9/05/2019	2.325	6.770	8.0500	5.725	3.12	26.8	268.9	13492	7.4
	21/04/2020	2.398	6.503	8.0500	5.652	2.96	28.3	120.7	16577	7.3
	28/04/2021	2.113	6.520	8.0500	5.937	1.77	23.8	239.8	16923	7.0
	14/04/2022	2.660	6.510	8.0500	5.390	2.46	28.0	301.1	24587	7.1
	11/04/2023	1.961	6.500	8.0500	6.089	1.80	32.5	215.9	12664	7.2
	21/03/2024	1.937	6.440	8.0500	6.113	0.94	29.4	226.3	9000	7.0
MW238	19/04/2018	1.886	5.950	7.0060	5.120	1.65	31.9	241.8	17770	7.1
	8/05/2019	1.583	5.950	7.0060	5.423	3.46	30.4	227.1	1890	8.3
	21/04/2020	1.838	5.600	7.0060	5.168	5.39	30.5	185.0	735	7.6
	27/04/2021	1.581	5.510	7.0060	5.425	4.65	28.6	271.5	1117	7.8
	21/04/2022	1.687	5.580	7.0060	5.319	2.40	29.5	275.8	6226	8.0
	14/04/2023	1.101	5.500	7.0060	5.905	2.47	31.3	258.5	2124	7.7
	March 2024	Lost / Destroyed - Road has been resurfaced.								
MW239	19/04/2018	2.484	7.030	6.5080	4.024	1.54	30.1	115.6	4373	7.1
	8/05/2019	2.310	7.030	6.5080	4.198	1.23	28.8	124.1	5363	7.0
	21/04/2020	2.866	6.283	6.5080	3.642	2.01	30.8	128.0	11264	7.0
	30/04/2021	2.391	6.283	6.5080	4.117	2.61	27.1	143.2	950	6.9
	14/04/2022	2.918	6.140	6.5080	3.590	1.55	30.2	297.0	4762	6.9
	20/04/2023	2.062	3.050	6.5080	4.446	2.55	23.3	248.6	866	6.5
21/03/2024	2.093	6.020	6.5080	4.415	1.74	30.4	77.6	2143	6.9	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH	
MW240	19/04/2018	1.825	5.950	6.5610	4.736	1.44	31.9	210.0	1105	8.0	
	8/05/2019	1.625	5.950	6.5610	4.936	1.29	30.9	121.6	974	8.2	
	21/04/2020	2.102	5.946	6.5610	4.459	1.37	28.6	80.2	2235	8.1	
	27/04/2021	1.591	5.950	6.5610	4.970	3.63	26.8	273.1	2092	8.2	
	14/04/2022	2.198	5.940	6.5610	4.363	1.77	30.2	284.4	1409	7.5	
	11/04/2023	1.358	6.880	6.5610	5.203	1.27	32.8	219.0	1116	7.8	
	21/03/2024	1.344	5.890	6.5610	5.217	1.62	31.5	193.9	1133	7.9	
MW252	13/04/2018	0.636	4.045	3.0379	2.402	1.04	31.2	254.2	1503	7.5	
	3/12/2018	2.985	4.040	3.0379	0.053	0.49	32.0	NR	661	6.6	
	6/05/2019	1.596	4.045	3.0379	1.442	2.94	29.6	361.5	672	7.3	
	22/10/2019	2.646	4.040	3.0379	0.392	0.73	28.3	355.4	485	7.3	
	17/04/2020	1.946	4.006	3.0379	1.092	2.88	32.8	127.4	1492	7.2	
	14/09/2020	2.639	4.030	3.0379	0.399	1.63	26.3	322.2	693	5.6	
	27/04/2021	1.559	4.020	3.0379	1.479	3.10	27.9	154.6	830	7.3	
	12/10/2021	2.548	4.020	3.0379	0.490	0.80	27.8	173.0	959	7.1	
	14/04/2022	2.184	4.100	3.0379	0.854	6.28	30.7	203.1	457	7.7	
	06/10/2022	2.222	4.100	3.0379	0.816	0.92	26.9	284.6	887	7.4	
	14/04/2023	1.695	4.030	3.0379	1.343	2.54	31.6	200.4	897	7.3	
	13/10/2023	2.222	4.001	3.0379	0.816	1.33	26.9	220.4	667	7.2	
	21/03/2024	1.457	3.823	3.0379	1.581	1.65	33.5	234.7	963	6.9	
	MW253	13/04/2018	2.835	4.377	4.1000	1.265	1.13	30.1	314.5	13439	6.5
3/12/2018		3.442	4.351	4.1000	0.658	0.35	30.6	130.8	32825	6.4	
6/05/2019		2.950	4.377	4.1000	1.150	2.38	28.9	408.7	10929	6.7	
22/10/2019		3.510	4.355	4.1000	0.590	0.18	28.5	121.4	15312	6.7	
27/04/2021		2.719	4.420	4.1000	1.381	1.60	28.2	126.0	4340	7.0	
12/10/2021		3.319	4.420	4.1000	0.781	0.08	29.0	50.4	10725	6.9	
April 2022					Well not sampled due to damage.						
08/10/2022		2.400	4.420	4.1000	1.700	0.83	27.4	88.8	7815	7.3	
14/04/2023		2.285	3.840	4.1000	1.815	3.19	30.8	304.4	7488	7.0	
13/10/2023		2.339	3.685	4.1000	1.761	0.76	27.9	90.6	24652	6.8	
19/03/2024		2.169	3.813	4.1000	1.931	3.28	31.1	341.1	7962	7.2	
MW254		13/04/2018	1.015	7.450	3.6667	2.652	NR	31.3	312.5	55602	6.5
		8/05/2019	0.895	7.450	3.6667	2.772	3.18	31.0	285.8	18005	7.1
		21/04/2020	1.215	7.450	3.6667	2.452	1.43	30.5	225.2	78959	6.2
	21/04/2021	1.045	7.470	3.6667	2.622	2.70	29.7	258.4	58718	6.5	
	21/04/2022	1.096	7.550	3.6667	2.571	3.43	31.0	348.0	58640	6.4	
	12/04/2023	0.613	7.480	3.6667	3.054	2.00	33.6	255.9	64444	6.4	
	18/03/2024	0.846	7.378	3.6667	2.821	2.19	30.8	296.8	72875	6.7	
MW256	11/04/2018	1.950	5.100	5.5618	3.612	1.68	30.3	231.1	689	7.0	
	7/05/2019	0.875	5.100	5.5618	4.687	2.13	29.9	262.3	624	7.8	
	24/10/2019	1.765	4.985	5.5618	3.797	2.31	28.0	249.6	756	7.2	
	21/04/2020	0.987	4.970	5.5618	4.575	2.31	32.6	172.8	975	7.1	
	21/04/2021	0.756	4.910	5.5618	4.806	3.81	29.8	256.5	1553	7.0	
	20/04/2022	1.312	4.950	5.5618	4.250	4.80	29.5	389.8	669	6.7	
	12/04/2023	0.785	4.950	5.5618	4.777	3.47	31.3	394.8	800	6.6	
18/03/2024	0.623	4.875	5.5618	4.939	2.35	31.1	279.4	1604	7.3		
MW257	10/04/2018	1.205	3.999	5.8653	4.660	0.64	32.1	190.8	1611	7.7	
	7/05/2019	1.415	3.999	5.8653	4.450	1.76	30.9	255.6	1535	8.1	
	21/04/2020	1.647	4.005	5.8653	4.218	2.50	30.6	233.1	984	8.3	
	21/04/2021	1.334	4.010	5.8653	4.531	3.10	30.7	219.3	1457	8.2	
	21/04/2022	1.752	4.100	5.8653	4.113	2.62	30.6	152.3	4308	6.7	
	12/04/2023	1.433	4.840	5.8653	4.432	2.72	32.2	226.9	1887	7.8	
	18/03/2024	1.250	4.790	5.8653	4.615	2.90	31.6	259.4	1775	8.0	
MW258	10/04/2018	2.324	4.893	6.1038	3.780	2.09	31.9	199.7	3358	7.3	
	7/05/2019	2.565	4.893	6.1038	3.539	2.83	31.0	261.5	1765	7.8	
	22/10/2019	3.353	4.904	6.1038	2.751	0.81	29.5	488.1	4707	6.8	
	21/04/2020	2.830	4.893	6.1038	3.274	3.26	31.9	221.0	2738	7.6	
	21/04/2021	2.507	4.890	6.1038	3.597	4.85	31.5	279.6	2215	7.5	
	20/04/2022	2.876	4.930	6.1038	3.228	3.81	33.0	238.0	1780	7.6	
	April 2023				Unable to open well. Bolts damaged and unable to be opened.						
18/03/2024	2.398	4.913	6.1038	3.706	4.70	30.7	316.4	3425	7.4		
MW259	10/04/2018	2.079	4.986	4.6643	2.585	2.34	31.3	199.4	1655	7.3	
	7/05/2019	2.243	4.986	4.6643	2.421	2.38	27.4	283.4	2165	7.0	
	21/04/2020	2.335	4.994	4.6643	2.329	2.34	31.8	142.2	2105	7.4	
	21/04/2021	2.033	4.990	4.6643	2.631	4.34	30.7	291.6	1679	7.4	
	20/04/2022	2.298	5.040	4.6643	2.366	4.88	31.9	258.8	1863	7.8	
	14/04/2023	1.978	3.970	4.6643	2.686	2.71	32.5	218.7	4782	7.3	
	18/03/2024	1.842	3.875	4.6643	2.822	3.85	32.2	279.1	1489	7.4	
MW260	10/04/2018	1.948	4.000	4.3124	2.364	2.54	35.0	226.0	4839	7.1	
	7/05/2019	2.075	4.000	4.3124	2.237	1.76	27.2	300.7	4295	7.3	
	21/04/2020	2.174	5.000	4.3124	2.138	1.93	33.4	186.7	4942	7.2	
	21/04/2021	1.894	4.850	4.3124	2.418	3.58	30.9	304.3	3845	7.3	
	20/04/2022	2.134	4.910	4.3124	2.178	3.83	31.5	264.6	3767	7.5	
	12/04/2023	1.827	4.920	4.3124	2.485	2.72	33.2	275.0	4397	7.4	
	18/03/2024	1.708	4.823	4.3124	2.604	3.06	32.9	274.2	3593	7.4	
MW261	11/04/2018	6.195	10.450	16.4982	10.303	0.62	28.7	227.6	910	6.6	
	7/05/2019	7.510	10.450	16.4982	8.988	1.25	27.9	297.9	565	6.6	
	21/04/2020	7.534	10.350	16.4982	8.964	2.31	31.1	225.1	668	6.4	
	29/04/2021	7.609	10.150	16.4982	8.889	2.87	27.9	174.0	716	6.5	
	14/04/2022	7.898	10.190	16.4982	8.600	1.39	30.9	296.0	1642	6.1	
	13/04/2023	7.590	9.300	16.4982	8.908	2.85	28.8	368.6	600	5.9	
	22/03/2024	6.923	10.069	16.4982	9.575	1.67	28.7	286.2	662	5.8	
MW262	13/04/2018	2.680	5.230	3.6428	0.963	NR	31.2	329.5	81695	5.2	
	8/05/2019	2.040	5.230	3.6428	1.603	1.05	33.7	402.1	83898	5.2	
	21/04/2020	2.033	5.297	3.6428	1.610	3.23	31.3	185.3	1054	4.7	
	21/04/2021	1.745	5.290	3.6428	1.898	2.57	29.4	332.6	57477	5.2	
	21/04/2022	2.868	5.300	3.6428	0.775	2.12	28.8	346.7	96556	4.9	
	14/04/2023	1.310	5.320	3.6428	2.333	1.94	31.9	242.8	76421	5.6	
	18/03/2024	1.121	5.297	3.6428	2.522	1.67	31.9	283.0	662	5.8	
MW263	10/04/2018	0.582	3.548	3.9391	3.357	1.17	32.6	222.0	1022	6.4	
	3/12/2018	1.917	3.550	3.9391	2.022	0.36	34.1	NR	956	5.3	
	7/05/2019	0.943	3.548	3.9391	2.996	0.91	31.3	208.1	745	7.0	
	22/10/2019	1.803	3.544	3.9391	2.136	0.28	31.1	409.7	522	6.7	
	21/04/2020	1.082	3.520	3.9391	2.857	2.33	33.9	119.7	1351	7.0	
	14/09/2020	1.723	3.550	3.9391	2.216	3.84	27.0	403.7	530	5.4	
	22/04/2021	0.799	3.510	3.9390	3.140	1.01	29.3	153.9	765	6.5	
	11/10/2021	1.695	3.510	3.9390	2.244	2.08	30.1	186.3	1022	6.7	
	20/04/2022	1.402	3.570	3.9390	2.537	3.09	32.6	160.0	863	7.2	
	06/10/2022	1.510	3.570	3.9390	2.429	0.76	29.2	342.5	453	7.0	
	21/04/2023	0.853	3.570	3.9390	3.086	2.34	29.9	209.5	436.5	6.6	
	13/10/2023	1.631	3.545	3.9391	2.308	0.74	31.1	203.9	419.3	6.4	
	20/03/2024	0.715	3.575	3.9391	3.224	1.54	33.7	363.8	118115	4.5	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Correct Redox (mV)	EC (µs/cm)	pH
MW264	13/04/2018	2.141	4.020	3.1900	1.049	NR	31.2	97.6	15224	6.7
	13/12/2018	2.235	5.530	3.1900	0.955	0.83	31.0	222.1	31971	6.3
	8/05/2019	1.233	4.020	3.1900	1.957	0.86	31.4	169.2	14271	6.9
	24/10/2019	2.357	5.534	3.1900	0.833	1.68	28.6	231.7	21178	6.3
	20/04/2020	1.385	5.520	3.1900	1.805	1.55	31.8	117.2	42269	6.4
	14/09/2020	2.148	3.985	3.1900	1.042	1.79	24.8	505.0	33193	3.6
	21/04/2021	1.157	5.530	3.1900	2.033	2.86	29.9	187.2	24185	6.6
	11/10/2021	2.087	5.530	3.1900	1.103	2.19	31.0	153.9	27766	6.5
	21/04/2022	1.689	4.040	3.1900	1.501	3.99	29.6	243.4	25271	5.9
	08/10/2022	1.902	4.040	3.1900	1.288	0.46	27.6	183.3	21312	6.8
	21/04/2023	1.156	5.160	3.1900	2.034	1.00	28.5	45.9	9983	7.1
10/10/2023	2.146	5.541	3.1900	1.044	0.91	30.0	88.7	29782	6.4	
March 2024	Lost / Destroyed - Road has been resurfaced.									
MW266	10/04/2018	1.454	5.036	3.2275	1.774	0.96	29.9	193.7	25232	6.7
	7/05/2019	1.507	5.036	3.2275	1.721	1.45	26.6	164.1	19499	7.0
	21/04/2020	1.765	5.040	3.2275	1.463	2.64	30.5	104.4	19754	7.1
	29/04/2021	1.296	5.040	3.2275	1.932	3.22	27.8	95.0	13090	7.1
	14/04/2022	1.659	5.030	3.2275	1.569	2.20	30.3	134.3	9887	7.1
	11/04/2023	1.238	5.050	3.2275	1.990	1.15	30.4	55.9	2929	7.0
	22/03/2024	1.215	5.034	3.2275	2.013	2.55	28.8	120.5	2377	7.2
MW267	10/04/2018	2.035	5.035	4.1337	2.099	1.06	30.3	217.8	6187	6.7
	4/12/2018	2.813	4.975	4.1337	1.321	0.23	28.9	474.2	7041	6.4
	7/05/2019	2.110	5.035	4.1337	2.024	0.93	29.3	141.7	6686	6.9
	21/04/2020	2.301	4.644	4.1337	1.833	2.26	29.8	74.6	3699	6.8
	21/09/2020	2.615	4.644	4.1337	1.519	2.24	26.5	282.3	7625	6.7
	29/04/2021	1.889	4.770	4.1340	2.245	2.62	27.7	32.0	7616	6.6
	14/04/2022	2.219	4.750	4.1340	1.915	1.68	29.9	159.9	7604	6.8
	08/10/2022	2.375	4.750	4.1340	1.759	0.29	25.7	64.4	5132	7.4
	20/04/2023	1.783	4.700	4.1340	2.351	0.58	27.5	20.1	4201	6.6
	13/10/2023	2.441	4.735	4.1337	1.693	2.02	26.4	147.7	6809	6.6
20/03/2024	1.644	4.662	4.1337	2.490	2.22	29.5	127.5	1716	6.7	
MW268	10/04/2018	1.861	4.983	3.6260	1.765	1.11	31.6	234.3	27850	6.2
	7/05/2019	1.868	4.983	3.6260	1.758	1.80	31.4	176.9	15903	6.7
	21/04/2020	2.057	4.932	3.6260	1.569	2.25	32.2	143.2	27787	6.6
	22/04/2021	1.747	4.930	3.6260	1.879	24.40	28.4	45.9	11144	6.7
	20/04/2022	2.023	4.980	3.6260	1.603	3.32	31.5	59.8	28403	6.4
	12/04/2023	1.862	4.940	3.6260	1.764	2.34	29.8	74.7	1773	6.5
	20/03/2024	1.448	4.240	3.6260	2.178	0.47	31.0	11.7	2791	6.8
MW269	10/04/2018	1.434	5.020	5.4562	4.022	3.44	33.6	227.7	174.4	6.9
	7/05/2019	2.052	5.020	5.4562	3.404	2.55	31.4	236.4	268.3	7.3
	21/04/2020	2.076	5.006	5.4562	3.380	5.66	34.1	198.3	190.9	7.2
	29/04/2021	1.861	5.010	5.4562	3.595	6.74	29.6	359.3	221.2	6.1
	14/04/2022	2.222	5.030	5.4562	3.234	5.54	32.9	293.3	374	6.9
	13/04/2023	2.062	5.040	5.4562	3.394	Insufficient water for parameters. Sampled				
	20/03/2024	1.711	5.030	5.4562	3.745	6.32	33.3	310.3	285	6.3
MW270	10/04/2018	0.835	5.465	5.0188	4.184	1.79	31.7	224.4	13580	6.6
	7/05/2019	1.015	5.465	5.0188	4.004	2.73	30.6	294.1	13673	6.9
	21/04/2020	1.381	5.440	5.0188	3.638	2.03	34.3	193.3	17650	6.6
	22/04/2021	0.895	5.450	5.0188	4.124	2.26	29.1	241.2	13590	6.8
	20/04/2022	1.406	5.510	5.0188	3.613	3.49	31.2	381.0	14564	6.5
	12/04/2023	0.899	5.470	5.0188	4.120	2.53	31.1	226.9	13000	6.5
	18/03/2024	0.699	5.453	5.0188	4.320	2.56	31.8	297.2	16120	6.8
MW301 (replacing MW209)	27/04/2021	2.199	4.920	3.9400	1.741	3.90	31.6	161.8	1351	7.5
	12/10/2021	2.948	4.920	3.9400	0.992	0.29	30.1	91.0	1433	7.2
	14/04/2022	2.705	3.850	3.9400	1.235	7.45	30.6	138.6	10.4	7.6
	08/10/2022	NA	3.850	3.9400	NA	Not sampled - Dry				
	21/04/2023	2.193	3.570	3.9400	1.747	1.15	28.9	120.9	1040	7.5
	12/10/2023	2.871	3.421	3.9400	1.069	1.13	28.5	65.8	1032	7.2
	19/03/2024	2.148	3.354	3.9400	1.792	6.78	31.2	257.7	1112	7.7
MW467	14/08/2017	2.157	0.000	3.4940	1.337	1.96	26.3	151.9	573	7.0
	6/05/2019	1.603	4.630	3.4940	1.891	1.46	27.8	266.2	739	7.2
	22/10/2019	2.400	4.659	3.4940	1.094	1.27	26.8	267.5	678	7.5
	20/04/2020	1.686	4.640	3.4940	1.808	2.52	29.2	291.3	358	7.1
	24/09/2020	2.277	4.644	3.4940	1.217	2.02	28.2	187.3	169.58	6.9
	27/04/2021	1.672	4.620	3.4940	1.822	1.97	27.0	118.2	462.1	7.4
	14/10/2021	2.225	4.620	3.4940	1.269	2.96	29.0	49.5	3801	7.7
	14/04/2022	1.985	4.460	3.4940	1.509	3.00	29.4	222.3	510	7.7
	06/10/2022	2.120	4.460	3.4940	1.374	0.59	27.2	-5.8	535	7.5
	25/04/2023	2.716	4.930	3.4940	0.778	1.97	29.1	145.0	375	7.5
	12/10/2023	2.175	4.442	3.4940	1.319	0.59	26.6	144.7	475	7.5
	21/03/2024	1.492	4.465	3.4940	2.002	1.01	29.3	231.4	589	7.3
MW471	28/05/2021	2.325	4.810	NA	NA	2.91	23.5	388.7	554	6.8
	13/10/2021	3.061	4.810	NA	NA	0.11	28.6	312.5	644	7.3
	19/04/2022	2.750	4.550	NA	NA	2.75	29.9	46.7	734	7.8
	08/10/2022	2.862	4.550	NA	NA	Insufficient water for parameters. Sampled				
	25/04/2023	2.368	4.180	NA	NA	4.00	28.8	152.4	730	7.5
	12/10/2023	2.965	4.456	NA	NA	1.29	27.1	84.6	554	7.3
	21/03/2024	2.206	4.397	NA	NA	1.75	30.1	90.3	542	7.1

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

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

* Anomalous groundwater elevation omitted from inferred groundwater contours

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P4:2 FTS	P6:2 FIS	P8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	PFOSA	PFOSAA	PFOSAE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUNDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW109	29/06/2017	<0.05	3.98	<0.05	<0.05	<0.05	<0.02	<0.05	0.66	<0.05	<0.02	<0.05	153	42.5	<0.02	<0.02	<0.02	9.77	73	252	911	65.4	122	<0.05	<0.02	<0.02	0.09	1,360	68	2,270	3,060	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.9	0.4	<0.05	<0.05	<0.05	0.46	0.46	3.9	15.4	0.96	2.78	<0.12	<0.05	<0.05	<0.05	<0.05	22.9	0.92	38.3	50.1
	15/08/2017	0.07	5	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	89.8	34.5	<0.02	0.03	<0.02	23.6	46.2	199	517	40.4	72.3	<0.05	<0.02	<0.02	0.3	781	46.4	1,300	1,860	
	15/08/2017	0.07	13.8	<0.05	<0.05	<0.12	<0.05	<0.12	0.48	<0.12	<0.05	<0.12	72.1	27.4	<0.05	<0.05	<0.05	22.4	45.6	201	501	35.1	68.3	<0.12	<0.05	<0.05	0.32	765	38.8	1,270	1,790	
	24/01/2018	<0.05	4.56	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	73.2	48.2	0.04	0.24	<0.02	21.8	54.8	215	583	37.4	67.2	<0.05	<0.02	<0.02	<0.02	1,200	50	1,780	2,380	
	16/04/2018	<0.10	<0.50	<0.10	<0.10	<0.25	<0.10	<0.25	0.25	<0.25	<0.10	<0.25	48.9	25.5	<0.10	<0.10	<0.10	13.2	28.4	127	304	31.3	50.8	<0.25	<0.10	<0.10	0.22	632	33.3	970	1,360	
	16/04/2018	-	6.23	-	-	-	-	-	<0.50	-	-	-	49.6	46.4	-	-	-	17.2	38	220	350	41.2	51.6	-	-	-	<0.50	666	39.8	982	1,460	
	19/12/2018	0.042	6.13	<0.020	<0.020	<0.050	<0.0200	<0.050	0.248	<0.050	<0.0200	<0.050	67.6	3.16	0.03	0.04	<0.0200	20.6	50.7	196	494	33.8	81.3	<0.0500	<0.0200	<0.0200	0.252	683	36.8	1,180	1,670	
	29/04/2019	<0.05	6.22	<0.05	<0.05	<0.12	<0.05	<0.12	0.32	<0.12	<0.05	<0.12	101	0.4	<0.05	0.07	<0.05	21.6	63	279	767	14.9	97.9	<0.12	<0.05	<0.05	0.06	1,340	46	2,110	2,740	
	17/10/2019	<0.10	7.8	0.12	<0.10	<0.25	<0.10	<0.25	0.37	<0.25	<0.10	<0.25	73.5	29.8	<0.10	<0.10	<0.10	22.6	42	195	578	38.1	71	<0.25	<0.10	<0.10	0.29	779	44.4	1,410	1,980	
	27/04/2020	<5.00	6.5	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	60.5	<25.0	<5.00	<5.00	<5.00	12.5	35	127	416	26.5	55	<12.5	<5.00	<5.00	<5.00	668	30.5	1,080	1,440	
	11/09/2020	<1.58	3.01	<1.58	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	31.7	9.7	<1.58	<1.58	<1.58	8.87	18.7	75.2	216	15.5	27.2	<3.96	<1.58	<1.58	<1.58	348	17.6	564	771	
	29/04/2021	<2	2	<2	<2	<5	<2	<5	<2	<5	<2	<5	18	10	<2	<2	<2	6.6	14.2	48.6	139	9.6	16	<5	<2	<2	<2	404	11.4	543	679	
	13/10/2021	<2.5	14	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	85	40.5	<2.5	<2.5	<2.5	28.8	58.8	260	607	47.5	83	<6.25	<2.5	<2.5	<2.5	1,050	53.2	1,660	2,330	
	21/04/2022	<0.5	4.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	33.7	13.4	<0.5	<0.5	<0.5	10.7	19.2	89.2	210	18.1	29	<1.25	<0.5	<0.5	<0.5	454	21.4	664	903	
	11/10/2022	<0.25	12.4	<0.4	<0.25	<0.62	<0.25	<0.62	0.8	<0.25	<0.62	<0.25	62	30.8	<0.25	<0.25	<0.25	21.7	55.7	242	572	43.3	72	<0.62	<0.25	<0.25	<0.25	1,000	46.8	1,570	2,160	
	26/04/2023	<0.83	12.8	<0.83	<0.83	<2.08	<0.83	<2.08	1	<2.08	<0.83	<2.08	60.2	24.4	<0.83	<0.83	<0.83	22.2	56.2	172	480	38.3	66.7	<2.08	<0.83	<0.83	0.83	1,510	45.5	1,990	2,490	
	11/10/2023	<2.3	8.94	<2.3	<2.3	<5.76	<2.3	<5.76	<2.3	<5.76	<2.3	<5.76	68	<2.3	22.6	<2.3	<2.3	20.7	44	202	559	42.2	73	<5.76	<2.3	<2.3	<2.3	1,220	48.2	1,780	2,310	
	19/03/2024	<0.35	9.3	<0.35	<0.35	<0.87	<0.35	<0.87	0.82	<0.87	<0.35	<0.87	68.3	6.8	<0.35	<0.35	<0.35	21.6	60.5	187	653	38.6	76.2	<0.87	<0.35	<0.35	0.6	1,150	48.5	1,800	2,320	
	MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000
15/08/2017		<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750	
16/04/2018		<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480	
18/12/2018		0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390	
29/04/2019		<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610	
17/10/2019		0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060	
27/04/2020		<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320	
11/09/2020		<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	6.77	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279	
29/04/2021		<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233	
13/10/2021		<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587	
21/04/2022		<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	7.64	1.7	<0.22	<0.22	<0.22	2.85	8.88	20.7	108	3.67	10	<0.56	<0.22	<0.22	<0.22	132	6.17	240	302	
12/10/2022		<0.5	1.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15.6	8.4	<0.5	<0.5	<0.5	6.55	10.8	63	182	17.4	17.4	<1.25	<0.5	<0.5	<0.5	222	10	404	555	
26/04/2023		<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	5.23	<2.3	<0.45	<0.45	<0.45	4.36	5.86	28.9	131	10.5	7.95	<1.14	<0.45	<0.45	<0.45	114	7.45	245	315	
11/10/2023		<1	1.96	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	18.4	<1	7.2	<1	<1	6.1	16.6	56.1	214	15.9	22.1	<2.5	<1	<1	<1	334	13.1	548	705	
19/03/2024		<0.05	0.1	<0.05	<0.05	<0.09	<0.04	<0.09	0.06	<0.09	<0.04	<0.09	4.34	1.2	<0.04	0.11	<0.04	1.9	9.08	14	86.3	4.35	6.34	<0.09	<0.04	<0.04	0.19	188	5.2	274	321	
MW138		29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546
		29/07/2017	<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20									

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P4:2 FTS	P6:2 FIS	P8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	PFOSA	PFOSAA	PFOSAE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHKA	PFHKS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUNDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHKS	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			
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																											0.13	220	0.07			
Location ID	Sample Date																															
MW114	29/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	5.5	1.2	<0.05	<0.05	<0.05	0.54	0.57	6.91	16.3	0.67	3.81	<0.12	<0.05	<0.05	<0.05	<0.05	10.5	0.64	26.8	46.6	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	3.65	0.4	<0.02	<0.02	<0.02	0.5	0.65	6.61	16.2	1.23	3.5	<0.05	<0.02	<0.02	<0.02	8.44	0.87	24.6	42	
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.35	0.7	<0.02	<0.02	<0.02	0.6	1.95	3.99	25.6	0.89	2.74	<0.05	<0.02	<0.02	0.05	45.9	1.28	71.5	86	
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	4.11	0.192	<0.0200	<0.0200	<0.0200	0.652	0.902	6.28	18.1	1.21	2.95	<0.0500	<0.0200	<0.0200	0.034	17.6	0.97	35.7	53	
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.24	0.58	1.79	8.51	0.45	1.12	<0.05	<0.02	<0.02	<0.02	14.3	0.5	22.8	28.6	
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.38	0.7	<0.02	<0.02	<0.02	0.65	1.17	4.57	22.5	1.02	1.77	<0.05	<0.02	<0.02	0.04	24	1.22	46.5	60	
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	0.8	<0.05	<0.05	<0.05	0.48	0.95	4.28	17.8	1	2.19	<0.12	<0.05	<0.05	<0.05	19.8	0.78	37.6	50.1	
	10/09/2020	<0.07	<0.07	<0.07	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	1.64	0.5	<0.07	<0.07	<0.07	0.45	1.19	2.84	17.4	0.67	1.66	<0.19	<0.07	<0.07	<0.07	25.2	1.2	42.6	52.8	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.3	<0.02	<0.02	<0.02	0.21	0.86	1.44	7.96	0.36	1.03	<0.05	<0.02	<0.02	0.04	22.6	0.54	30.6	36.1	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1	0.4	<0.05	<0.05	<0.05	0.39	1.43	2.26	15.4	0.49	1.36	<0.12	<0.05	<0.05	0.05	32.8	0.98	48.2	56.6	
	12/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.88	<0.5	<0.1	<0.1	<0.1	0.27	0.7	1.99	10.7	0.53	0.91	<0.25	<0.1	<0.1	<0.1	20.7	0.64	31.4	37.3	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.3	0.7	<0.05	<0.05	<0.05	0.46	0.83	5.9	12.8	1.03	2.02	<0.12	<0.05	<0.05	<0.05	16.5	0.8	29.3	43.3	
	28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.62	<0.2	<0.05	<0.05	<0.05	0.21	0.71	1.42	7.86	0.37	0.75	<0.12	<0.05	<0.05	<0.05	25	0.53	32.9	37.5	
	10/10/2023	<0.06	<0.06	<0.06	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	0.83	<0.06	<0.3	<0.06	<0.06	0.2	0.55	1.55	6.04	0.35	0.76	<0.15	<0.06	<0.06	<0.06	26.5	0.66	32.5	37.4	
	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.31	0.5	<0.02	<0.02	<0.02	0.46	0.57	4.6	8.5	1.02	1.95	<0.05	<0.02	<0.02	<0.02	13.3	0.58	21.8	33.8	
MW125	29/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.46	<0.05	0.62	0.62		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.26	<0.2	<0.05	<0.05	<0.05	0.62	2.8	7.29	35.9	1.16	2.86	<0.12	<0.05	<0.05	<0.05	30.3	1.41	66.2	84.6	
	18/12/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	2	<0.020	<0.010	<0.010	<0.010	0.594	1.59	8.27	37	1.1	2.59	<0.025	<0.010	<0.010	0.013	21.5	0.778	63.9	80.8	
	28/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	0.32	<1.2	<0.25	<0.25	<0.25	<0.25	<0.25	1.48	7.12	<0.25	0.32	<0.62	<0.25	<0.25	<0.25	22.3	<0.25	29.4	31.5	
	10/09/2020	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.4	<0.2	<0.05	<0.05	<0.05	0.11	0.18	1.91	7.13	0.26	0.38	<0.12	<0.05	<0.05	<0.05	11.6	0.17	18.7	22.2	
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	11	<50	<10	<10	<10	<10	11	45	185	10	11	<25	<10	<10	<10	611	<10	796	884	
	13/10/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.67	<1.1	<0.1	<0.1	<0.1	1.26	4.09	18.6	79.8	2.64	5.95	<0.25	<0.1	<0.1	<0.1	307	2.03	387	425	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.15	0.78	3.12	0.11	0.21	<0.06	<0.02	<0.02	<0.02	14	0.08	17.1	18.7	
	11/10/2022	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	4.14	<2.4	<0.48	<0.48	<0.48	1.67	4.14	19.6	92.8	2.57	5.38	<1.19	<0.48	<0.48	<0.48	160	2.28	253	292	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.06	0.16	1.12	0.02	0.06	<0.05	<0.02	<0.02	<0.02	4.2	0.04	5.32	5.7		
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.58	<0.05	<0.2	<0.05	<0.05	0.23	0.69	2.83	15.5	0.39	0.89	<0.12	<0.05	<0.05	<0.05	31.8	0.45	47.3	53.4	
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	2.88	0.5	<0.04	<0.04	<0.04	1.19	4.86	18.5	111	2.46	4.37	<0.09	<0.04	<0.04	0.07	306	2.45	417	454	
	MW142	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.08	<0.2	<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	<0.05	0.08	
		19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0362	<0.002	<0.0005	<0.0005	<0.0005	0.0095	0.0088	0.0682	0.296	0.0203	0.0399	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.181	0.0237	0.477	0.684
		17/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0445	<0.002	<0.0005	<0.0005	<0.0005	0.0039	0.0061	0.0478	0.461	0.0065	0.0302	<0.0005	<0.0005	<0.0005	<0.0005	0.067	0.0038	0.528	0.671	
1/05/2019		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.16	<0.05	0.38	0.38		
16/10/2019		<0.001	<0.001	<0.001	<0.001	<0.01	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0015	<0.002	<0.0005	<0.0005	<0.0005	0.0012	0.002	0.022	0.0006	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0266	0.0007	0.0486	0.0565		
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08				

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P4:2 FTS	P6:2 FIS	P8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	PFOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHKA	PFHS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUNDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
Remaining On-Base	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.1	0.11	0.8	2.79	0.18	0.42	<0.05	<0.02	<0.02	<0.02	<0.02	3.13	0.16	5.92	8.07
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	<0.1	<0.02	<0.02	<0.02	0.12	0.13	0.87	3.75	0.21	0.5	<0.05	<0.02	<0.02	<0.02	<0.02	4.04	0.21	7.79	10.2
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.1	0.18	1	2.97	0.2	0.35	<0.05	<0.02	<0.02	<0.02	<0.02	2.58	0.17	5.55	7.81
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.68	<0.2	<0.05	<0.05	<0.05	0.1	0.14	1.12	4.01	0.22	0.51	<0.12	<0.05	<0.05	<0.05	<0.05	2.66	0.16	6.67	9.6
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.732	<0.020	<0.0200	<0.0200	<0.0200	0.078	0.096	0.952	2.62	0.18	0.508	<0.0500	<0.0200	<0.0200	<0.0200	1.46	0.104	4.08	6.73	
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.09	0.12	0.86	2.71	0.13	0.37	<0.05	<0.02	<0.02	<0.02	<0.02	2.51	0.11	5.22	7.28
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.1	<0.02	<0.02	<0.02	0.09	0.17	0.88	2.98	0.16	0.31	<0.05	<0.02	<0.02	<0.02	<0.02	2.02	0.16	5	7.15
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	<0.02	<0.02	<0.02	0.1	0.2	0.99	3.64	0.14	0.4	<0.05	<0.02	<0.02	<0.02	<0.02	3.78	0.16	7.42	9.96
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.3	<0.02	<0.02	<0.02	0.13	0.18	1.33	3.5	0.29	0.54	<0.05	<0.02	<0.02	<0.02	<0.02	3.3	0.22	6.8	10.4
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.78	0.2	<0.02	<0.02	<0.02	0.08	0.09	1.2	3.01	0.25	0.62	<0.05	<0.02	<0.02	<0.02	<0.02	1.53	0.1	4.54	7.86
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.46	0.2	<0.04	<0.04	<0.04	0.14	0.29	1.2	3.64	0.23	0.46	<0.09	<0.04	<0.04	<0.04	4.66	0.24	8.3	11.5	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.1	<0.02	<0.02	<0.02	0.08	0.16	0.82	2.37	0.15	0.23	<0.05	<0.02	<0.02	<0.02	<0.02	4.26	0.17	6.63	8.57
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.12	0.18	1.21	3.19	0.22	0.45	<0.05	<0.02	<0.02	<0.02	<0.02	2.63	0.18	5.82	8.77
	27/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.14	0.2	<0.02	<0.02	<0.02	0.13	0.14	1.86	5.36	0.4	1.19	<0.06	<0.02	<0.02	<0.02	<0.02	1.05	0.14	6.41	11.6
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.02	0.1	<0.02	<0.02	0.12	0.15	1.17	2.66	0.23	0.36	<0.05	<0.02	<0.02	<0.02	<0.02	4.27	0.23	6.93	9.65
14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.1	<0.02	<0.02	<0.02	0.1	0.1	1.48	3.39	0.29	0.78	<0.05	<0.02	<0.02	<0.02	<0.02	1.23	0.12	4.62	8.56	
MW002	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.06	0.09
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.14	0.16
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0325	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0028	0.0018	0.0507	<0.0005	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.052	0.0017	0.103	0.147
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.012	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0013	0.0272	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0319	<0.0005	0.0591	0.0767
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.18
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.06
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.06	0.09
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	0.04	0.07	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.12	0.16
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.09
	27/04/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.09	<0.01	0.14	0.16
	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03
	MW004	30/06/2017	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.43	0.6	<0.02	<0.02	<0.02	0.4	0.93	3.22	10.4	0.51	1.44	<0.05	<0.02	<0.02	<0.02	<0.02	46.4	1.06	56.8
27/07/2017		<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	0.89	0.3	<0.02	<0.02	<0.02	0.47	0.7	2.18	8.92	0.52	1.3	<0.05	<0.02	<0.02	<0.02					

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P4-FTS	P2-FIS	P2-FTS	10-2 FTS	EFOSA	EFOSAA	EFOSE	PFOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHKA	PFHS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	FOA	Sum of PFOS and PFHKS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW049	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	0.1	0.15	<0.02	0.02	0.23	0.06	0.52	1.69	0.19	0.22	<0.05	<0.02	0.02	0.07	1.74	0.29	3.43	5.63	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	0.05	<0.02	<0.02	0.09	0.08	0.36	2.26	0.14	0.34	<0.05	<0.02	<0.02	<0.02	1.6	0.16	3.86	5.37	
	28/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.27	1.48	0.06	0.23	<0.05	<0.02	<0.02	<0.02	0.8	0.08	2.28	3.27	
	12/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	1.11	<0.02	0.2	0.47	<0.02	0.33	0.21	0.4	0.03	<0.05	0.02	0.16	0.77	1.46	1.16	1.67	6.48	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	0.62	<0.02	0.08	0.41	0.03	0.39	0.74	0.33	0.08	<0.05	<0.02	0.07	0.38	1.56	0.75	2.3	5.66	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.084	<0.020	0.13	<0.0200	0.02	0.146	0.022	0.202	0.322	0.136	0.054	<0.0500	<0.0200	<0.0200	0.072	0.518	0.186	0.84	1.89	
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0034	<0.001	<0.0005	<0.001	0.535	0.033	0.0502	0.0062	0.0085	0.481	0.133	1.24	3.54	0.574	0.448	0.0024	0.0013	0.0053	0.0344	1.42	0.369	4.96	8.88	
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	0.03	<0.02	0.03	0.07	0.08	0.39	2.14	0.11	0.23	<0.05	<0.02	<0.02	<0.02	1.41	0.12	3.55	4.94	
	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.25	2.24	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	0.09	<0.05	2.33	4.6	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	1.93	<0.05	0.86	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	2.05	3.89	
17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	2.05	0.07	0.75	<0.12	<0.05	<0.05	<0.05	0.08	<0.05	2.13	3.99		
17/04/2018	<0.10	0.19	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.14	0.6	<0.10	<0.10	<0.10	<0.10	0.85	2.77	0.34	0.55	<0.25	<0.10	<0.10	<0.10	0.69	<0.10	3.46	7.13			
29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.28	<0.2	<0.05	<0.05	<0.05	<0.05	0.08	0.78	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	0.16	<0.05	0.94	1.48			
18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.32	<0.02	0.08	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	0.36	0.61			
30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.18	1.81	0.03	0.5	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.03	3.38		
7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.06	0.2	<0.02	<0.02	<0.02	0.05	0.02	0.57	2.36	0.12	0.54	<0.05	<0.02	<0.02	<0.02	0.21	0.05	2.57	5.18		
6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.63	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.28	1.79	0.07	0.51	<0.05	<0.02	<0.02	<0.02	0.12	0.02	1.91	3.46		
12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.84	0.2	<0.04	<0.04	<0.04	0.11	0.1	0.67	4.22	0.17	0.7	<0.09	<0.04	<0.04	<0.04	1.5	0.14	5.72	8.65		
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.68	0.1	<0.02	<0.02	<0.02	0.03	0.03	0.38	1.89	0.08	0.46	<0.05	<0.02	<0.02	<0.02	0.28	0.03	2.17	3.96		
10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	0.02	0.02	0.42	2.44	0.11	0.71	<0.05	<0.02	<0.02	<0.02	0.17	0.02	2.61	4.9		
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.05	0.2	<0.02	<0.02	<0.02	0.03	0.03	0.56	3.1	0.12	0.99	<0.05	<0.02	<0.02	<0.02	0.14	0.02	3.24	6.24		
10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.9	<0.02	0.2	<0.02	<0.02	<0.04	<0.02	0.52	2.21	0.15	0.68	<0.05	<0.02	<0.02	<0.02	0.08	0.03	2.29	4.77		
14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.85	0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.56	2.6	0.14	0.72	<0.05	<0.02	<0.02	<0.02	0.06	0.02	2.66	5.08		
16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.72	<0.2	<0.05	<0.05	<0.05	0.2	0.43	3.99	8.06	<0.05	1.77	<0.12	<0.05	<0.05	<0.05	3.8	0.18	11.9	20.2		
16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	4.09	0.8	<0.10	<0.10	<0.10	0.37	0.73	7.8	17.2	1.47	3.58	<0.25	<0.10	<0.10	<0.10	7.09	0.37	24.3	43.5		
19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.92	0.184	<0.0200	<0.0200	<0.0200	0.302	0.538	5.96	12.6	1.13	2.57	<0.0500	<0.0200	<0.0200	<0.0200	4.44	0.332	17	31		
29/04/2019	<0.05	0.2	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.39	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.16	0.02	0.55	0.99		
18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.3	<0.5	<0.10	<0.10	<0.10	<0.10	0.54	1.49	0.13	0.27	<0.25	<0.10	<0.10	<0.10	0.42	<0.10	1.91	3.15			
30/04/2020	<0.05	0.07	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.08	<0.2	<0.05	<0.05	<0.05	0.14	0.23	2.82	6.08	0.47	1.09	<0.12	<0.05	<0.05	<0.05	2.2	0.1	8.28	14.3		
7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.89	0.7	<0.03	<0.03	<0.03	0.32	0.54	6.31	11.6	1.22	2.59	<0.08	<0.03	<0.03	<0.03	4.91	0.34	16.5	31.4		
28/04/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.54	0.3	<0.02	<0.02	<0.02	0.17	0.3	3.33	6.43	0.72	1.45	<0.05	<0.02	<0.02	<0.02	3.07	0.17	9.5	17.6		
12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	2.24	0.5	<0.04	<0.04	<0.04	0.27	0.51	5	11.2	0.95	2.25	<0.09	<0.04	<0.04	<0.04	4.88	0.27	16.1	28.1		
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.84	0.6	<0.02	<0.02	<0.02	0.3	0.61	6.64	12.8	1.31	2.52	<0.05	<0.02	<0.02	<0.02	6.29	0.4	19.1	34.3		
11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.45	<0.1	<0.02	<0.02	<0.02	0.05	0.1	0.98	2.36	0.19	0.4	<0.05									

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P2-FTS	P2-FIS	P2-FTS	10-2 FTS	EFOSA	EFOSAA	EFOSE	EFOSA	MFOSA	MFOSAA	MFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHKA	PFHS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUNDA	PFNA	PFOS	FOA	Sum of PFOS and PFHS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW120	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.28	0.5	<0.02	<0.02	<0.02	0.92	1.06	10	27	1.66	4.84	<0.05	<0.02	<0.02	<0.02	10.9	1.98	37.9	63.1	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.17	1.3	<0.02	<0.02	<0.02	1.07	1.52	8.97	29.4	1.62	4.72	<0.05	<0.02	<0.02	0.02	23.3	1.91	52.7	78	
	18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0225	<0.002	<0.0005	0.0011	<0.0005	0.0021	0.0086	0.0168	0.11	0.0032	0.0154	<0.0005	<0.0005	<0.0005	<0.0005	0.224	0.007	0.334	0.411	
	2/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0018	<0.001	<0.0005	<0.001	1.54	0.103	<0.0005	0.0032	<0.0005	0.422	1.09	3.19	11.3	0.607	1.65	<0.0005	<0.0005	<0.0005	0.0056	15.6	1	26.9	36.5	
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.89	0.6	<0.02	<0.02	<0.02	0.49	0.65	4.28	13.2	0.85	1.73	<0.05	<0.02	<0.02	<0.02	10.6	0.99	23.8	35.3	
	28/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	2.07	0.7	<0.02	<0.02	<0.02	0.58	1.79	4.23	17.2	0.86	2.02	<0.05	<0.02	<0.02	<0.02	40.2	1.64	57.4	71.4	
	11/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.52	0.8	<0.03	<0.03	<0.03	0.69	0.92	5.36	16.4	1.1	2.4	<0.08	<0.03	<0.03	<0.03	14.2	1.42	30.6	45.8	
	30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.67	0.7	<0.1	<0.1	<0.1	0.53	0.82	3.8	13.8	0.78	1.89	<0.25	<0.1	<0.1	<0.1	22.6	1.13	36.4	47.7	
	11/10/2021	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.3	0.7	2.68	9.6	0.52	1.38	<0.05	<0.02	<0.02	<0.02	15.3	0.77	24.9	33	
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.87	0.9	<0.05	<0.05	<0.05	0.75	1.06	6.15	20	1.23	3.07	<0.12	<0.05	<0.05	<0.05	22.4	1.69	42.4	60.1	
	13/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.93	0.3	<0.02	<0.02	<0.02	0.28	0.62	2.66	9.11	0.47	1.15	<0.05	<0.02	<0.02	<0.02	13.5	0.62	22.6	29.6	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.39	0.5	<0.02	<0.02	<0.02	0.4	0.81	2.82	10.8	0.56	1.73	<0.06	<0.02	<0.02	<0.02	21.2	0.99	32	41.2	
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.02	<0.05	<0.2	<0.05	<0.05	0.26	0.4	2.04	7.24	0.43	1.06	<0.12	<0.05	<0.05	<0.05	9.87	0.61	17.1	22.9	
	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.2	<0.02	<0.02	<0.02	0.19	0.27	1.54	4.63	0.33	0.59	<0.05	<0.02	<0.02	<0.02	8.55	0.5	13.2	17.4	
MW121	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.87	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.19	2.13	0.04	0.64	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	2.25	4.03	
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.49	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	2.39	<0.10	0.79	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	2.71	5.21	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.82	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	1.59	<0.05	0.49	<0.12	<0.05	<0.05	<0.05	0.15	<0.05	1.74	3.21	
	18/10/2019	<0.15	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.23	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.39	3.12	<0.10	0.84	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	3.24	5.7	
MW122	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.13	0.17	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.1	
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0009	0.0006	0.00075	0.0271	0.0029	0.0048	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0009	0.0326	0.0657	
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0611	<0.002	<0.0005	<0.0005	<0.0005	0.003	0.0063	0.0244	0.152	0.0054	0.0191	<0.0005	<0.0005	<0.0005	<0.0005	0.0664	0.0046	0.218	0.342	
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.31	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.84	0.01	1.15	1.29
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.22	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.16	0.28	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.09	0.11
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.11	0.18	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.12	0.18	
	27/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.13	
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.06	
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.05	0.07
MW135	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.													

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P4-FTS	P2-FIS	P2-FTS	P10-FTS	EFOSA	EFOSAA	EFOSE	PFOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHKA	PFHKS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUNDA	PFNA	PFOS	FOA	Sum of PFOS and PFHKS	Sum of PFAS				
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																			
PFAS NEMP 2020 Drinking Water																																			
Location ID	Sample Date																																		
MW222	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.23	0.02	0.27	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.34	0.5
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.27	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.23	0.58	5.25	0.12	0.91	<0.05	<0.02	<0.02	<0.02	<0.02	2.26	0.16	7.51	11
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.634	<0.020	<0.0200	<0.0200	<0.0200	0.082	0.124	0.538	2.64	0.112	0.444	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1.11	0.146	3.75	5.83		
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0994	0.006	<0.0005	<0.0005	<0.0005	0.0073	0.0177	0.0672	0.339	0.0127	0.079	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0145	0.523	0.827			
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.23	1.73	0.04	0.29	<0.05	<0.02	<0.02	<0.02	<0.02	0.34	0.04	2.07	3.1			
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.17	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.22	0.31			
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.34	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.28	0.02	0.62	0.85			
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.07	0.17			
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.01	0.2	0.2			
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<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	<0.05	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	0.12	0.12			
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.14	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.24	<0.01	0.38	0.47			
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	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	<0.02	<0.02	<0.02	0.1	<0.01	0.17	0.19			
	21/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.23	<0.01	0.45	0.59			
MW223	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.95	<0.1	<0.02	<0.02	<0.02	0.09	0.22	0.67	4.94	0.23	0.64	<0.05	<0.02	<0.02	<0.02	6.64	0.23	11.6	14.6				
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.79	0.2	<0.02	<0.02	<0.02	0.18	0.17	1.14	4.61	0.27	0.65	<0.05	<0.02	<0.02	<0.02	9.89	0.37	14.5	18.3					
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.44	<0.020	<0.0200	<0.0200	<0.0200	0.108	0.138	0.612	2.97	0.128	0.328	<0.0500	<0.0200	<0.0200	<0.0200	6.73	0.252	9.7	11.7				
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.54	0.2	<0.02	<0.02	<0.02	0.15	0.25	0.99	3.79	0.23	0.49	<0.05	<0.02	<0.02	<0.02	16	0.33	19.8	23				
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.45	0.2	<0.02	0.03	<0.02	0.13	0.17	0.92	3.08	0.22	0.56	<0.05	<0.02	<0.02	<0.02	6.75	0.21	9.83	12.7				
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	0.42	0.2	<0.04	<0.08	<0.04	0.15	0.14	1.23	3.45	0.25	0.49	<0.1	<0.04	<0.04	<0.04	10.8	0.32	14.2	17.4				
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.54	0.3	<0.05	<0.05	<0.05	0.22	0.16	1.28	3.38	0.36	0.52	<0.12	<0.05	<0.05	<0.05	5.35	0.24	8.73	12.4				
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	0.04	<0.09	<0.04	<0.09	0.2	0.3	<0.04	<0.04	<0.04	0.22	0.09	1.57	1.56	0.31	0.19	<0.09	<0.04	<0.04	<0.04	6.87	0.15	8.43	11.5				
	12/04/2022	<0.05	0.09	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.22	0.1	<0.02	<0.02	<0.02	0.17	0.06	1.3	1.61	0.28	0.21	<0.06	<0.02	<0.02	<0.02	3.18	0.12	4.79	7.34				
	5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.1	<0.02	0.02	<0.02	0.15	0.18	1.06	2.84	0.23	0.39	<0.05	<0.02	<0.02	<0.02	7.12	0.22	9.96	12.7				
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.75	0.2	<0.02	<0.02	<0.02	0.23	0.22	1.42	4.8	0.33	0.86	<0.06	<0.02	<0.02	<0.02	5.78	0.3	10.6	14.9				
	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.06	0.43	0.09	0.07	<0.05	<0.02	<0.02	0.03	0.36	0.02	0.79	1.33				
	18/04/2018	<0.05	0.13	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.18	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.83	0.08	0.06	<0.12	<0.05	<0.05	0.1	1.2	<0.05	2.03	2.7				
	17/12/2018	<0.002	0.143	0.005	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.11	<0.002	<0.0020	<0.0020	<0.0020	0.0762	0.0142	0.191	0.396	0.239	0.0638	<0.0050	<0.0020	<0.0020	0.101	0.329	0.0356	0.725	1.7				
2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.6	<0.02	0.1	<0.05	<0.02	<0.02	0.03	0.92	0.02	1.52	1.89					
14/10/2019	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.33	0.12	0.04	<0.05	<0.02	<0.02	0.14	0.5	0.04	0.83	1.52					
28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.2	<0.02	<0.02	<0.02	0.06	0.2	0.34	2	0.15	0.35	<0.05	<0.02	<0.02	0.04	3.76	0.09	5.76	7.59					
23/09/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.29	0.13	0.05	<0.05	<0.02	<0.02	0.08	0.34	0.04	0.63	1.27					
30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02																											

Table T3: Current and Historical Groundwater PFAS Analytical Results

		P4-FTS	P2-FIS	P2-FTS	10-2 FTS	EFOSA	EFOSAA	EFOSE	EFOSA	MFOSA	MFOSAA	MFBOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHKA	PFHS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	FOA	Sum of PFOS and PFHS	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		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW265	23/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	17/04/2018	-	-	-	-	-	-	-	-	-	-	-	1.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	2.52	<0.002	<0.0020	<0.0020	<0.0020	0.0578	0.061	0.764	5.8	0.127	1.22	<0.0050	<0.0020	<0.0020	<0.0020	0.439	0.0566	6.24	11	
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.64	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	1.03	<0.05	0.3	<0.12	<0.05	<0.05	<0.05	0.22	<0.05	1.25	2.27	
	17/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.49	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.08	0.75	<0.10	0.21	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.75	1.45
	29/04/2020	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.76	<0.02	0.19	<0.05	<0.02	<0.02	<0.02	0.53	<0.01	1.29	2.07	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.97	0.03	0.27	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	1.24	2.22	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.37	0.02	0.11	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.45	0.9	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.66	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.27	1.14	0.08	0.36	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	1.41	2.78	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.46	<0.02	0.12	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.54	1.01	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.91	0.03	0.27	<0.05	<0.02	<0.02	<0.02	0.14	<0.01	1.05	1.96	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.56	<0.02	0.1	<0.05	<0.02	<0.02	<0.02	0.73	0.03	1.29	1.72
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.16	1.04	0.04	0.23	<0.05	<0.02	<0.02	<0.02	0.75	0.04	1.79	2.7
	22/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.11	0.48	0.03	0.1	<0.05	<0.02	<0.02	<0.02	0.99	0.04	1.47	1.98
MW300	30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.26	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.25	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	0.02	0.31	0.7		
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.29	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.23	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.02	0.28	0.66		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.4	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.34	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	<0.02	0.09	0.02	0.43	0.9		
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.19	0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.09	0.03	0.28	0.53		
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.21	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.23	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.13	0.04	0.36	0.67		
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.09	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.14	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.16	0.04	0.3	0.48		
21/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.16	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.22	0.02	0.38	0.54			
MW470	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.38	0.04	0.1	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.47	0.76		
	13/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.14	0.16		
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0073	<0.002	0.0017	<0.0005	<0.0005	0.0007	0.0019	0.0122	0.0443	<0.0005	0.0043	<0.0005	<0.0005	<0.0005	0.0015	0.104	0.0063	0.148	0.184		
	10/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.1	0.1		
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.2	<0.01	0.27	0.27		
	23/09/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	<0.01	0.16	0.28		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.09	0.12		
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.42	<0.05	0.49	0.49		
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.42	<0.02	0.55	0.66		
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.23	<0.01	0.29	0.29			
12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	0.38	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	0.01	0.6	0.61				
22/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.11	0.11				
Remaining Off-Base																																
MW201	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	&															

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
On-Base - Bohle River/Louisa Creek/Town Common Catchment								
SW013	17/07/2017	8.88	29.95	218.4	3236	7.1	Not recorded on field notes	
	19/12/2018	0.62	34.5	322	1447	7.2	Clear/yellow, low turbidity, anoxic odour	
	30/04/2019	11.10	25.9	227.5	921	9.1	Clear/brown, low turbidity, organic odour	
	29/04/2020	4.32	31.8	217.3	3695	7.5	Greenish Black, No Odour, Biosheen Appearance	
	22/04/2021	2.49	25.7	326.4	3388	6.7	Low turbidity, Pale yellow, No odour, No sheen	
	22/04/2022	1.57	23.1	328.8	457.7	7.4	Clear turbidity, Pale yellow, No odour, No sheen, Standing water body in vegetated area, approx. 15 cm deep, 40 cm wide. Grass underneath puddle.	
	7/10/2022	Insufficient water for water quality parameters						Algae on surface.
	20/04/2023	6.23	29.8	260.9	2260	6.8	Low turbidity, Light Olive Brown, No Odour, No sheen	
	October 2023	Location DRY						
	20/03/2024	2.91	31.2	238.3	3039	7.3	Dark reddish brown, slight organic odour, biosheen	
SW014	17/07/2017	3.94	22.8	357.4	2951	7.5	Clear, brown, low turbidity	
	19/04/2018	2.49	26.7	210.8	2092	6.4		
	12/12/2018	2.62	28.5	363.3	402	6.9	Brown, moderate turbidity, no odour	
	3/05/2019	9.62	25.4	201.1	1848	8.8	Clear, low turbidity, organic odour	
	24/10/2019	6.04	25	331.8	3319	7.8	Clear, low turbidity, organic odour.	
	28/04/2020	3.73	26.2	210.6	1588	7.5	Yellowish Brown, Slight Organic Odour, No Sheen	
	24/09/2020	6.39	26.1	284.4	3193	7.2	Light Olive Brown, Slight Organic Odour, No sheen	
	27/12/2020	3.21	27.6	325.3	1149	7.2	Pale yellow, No odour, No sheen. Bio scum and algae present	
	28/12/2020	3.90	28.1	290.6	369.5	7.2	Brown, No odour, Slight sheen.	
	29/12/2020	3.40	27.2	281.3	166.6	7.1	Yellow, No odour, No sheen.	
	30/12/2020	3.30	27.4	297.4	162.8	6.8	Yellowish Brown, No odour, No sheen.	
	31/12/2020	3.39	27.4	289.1	206.6	6.8	Yellowish Brown, No odour, No sheen.	
	9/02/2021	2.48	28.1	312.2	205.3	6.8	Brown, No odour, No sheen.	
	10/02/2021	-	29.1	287.7	385.4	7.2	Light olive brown, No odour, No sheen.	
	11/02/2021	2.40	27.2	147.4	428.1	6.8	Light olive brown, No odour, Biosheen Appearance.	
	12/02/2021	3.01	27.5	291.1	377.8	7.3	Pale yellow, Slight Organic Odour, No sheen.	
	13/02/2021	2.08	27.8	230.1	518	7.2	Pale yellow, Slight Organic Odour, Biosheen Appearance.	
	22/04/2021	4.73	24.5	317.1	201.6	7.7	Low turbidity, Pale yellow, No odour, Biosheen Appearance	
	7/10/2021	1.95	24.7	68.2	5788	7.2	Low turbidity, Pale yellow, Sulfurous odour, No sheen	
	26/01/2022	3.22	26.6	354.7	148.8	7.2	Clear, No odour, No sheen.	
	27/01/2022	4.69	27.2	340.1	129.9	6.8	Clear, No odour, No sheen.	
	28/01/2022	2.85	27.6	353.3	257.1	6.7	Olive yellow, No odour, No sheen.	
	29/01/2022	2.63	27.8	341.1	332.5	6.8	Pale yellow, No odour, No sheen.	
	30/01/2022	2.28	27.9	311.1	469.0	7.1	Brown, No odour, No sheen.	
	13/04/2022	1.72	27.1	251.3	3691	8.6	Low turbidity, Pale yellow, No odour, No sheen, Still water, 2 m wide earthen creek under bridge	
	7/10/2022	Insufficient water for water quality parameters						Still water
	17/04/2023	4.66	26.2	320.6	4.7	6.8	Low turbidity, No odour, No sheen	
	18/04/2023	2.29	26.3	265.5	308.3	7.0	Low turbidity, No odour, No sheen	
	19/04/2023	2.65	27.4	289.1	409.9	7.0	Clear turbidity, Light Olive Brown, No odour, No sheen	
	20/04/2023	2.05	27.8	292.6	514	6.8	Clear turbidity, No odour, No sheen	
	21/04/2023	2.19	26.7	276.3	618	6.7	Low turbidity, No odour, No sheen	
	11/10/2023	1.16	24.5	157.4	1427	7.2	Light olive brown, turbid, slight organic odour, no sheen	
	11/01/2024	4.41	27	308.3	217.7	7.3	Light olive brown, no odour, no sheen	
	12/01/2024	3.83	28.1	271.4	292.2	7.1	Pale yellow, no odour, no sheen	
	13/01/2024	3.02	28.4	298.7	360.9	6.8	Pale yellow, no odour, no sheen	
	14/01/2024	2.87	27.6	116.7	396.2	6.9	Yellow brown, sulfurous odour, no sheen	
	15/01/2024	3.64	27.5	256.7	424.8	6.9	Yellow brown, no odour, no sheen	
	20/03/2024	0.81	29	218.9	1527	7.3	Clear, no odour, no	
	SW016	14/08/2017	6.96	25.44	395.2	2667	7.0	Clear, low turbidity, no odour
		11/04/2018	2.48	24.6	179.7	679	6.3	Clear, algae, reeds,
17/12/2018		2.34	31.1	255.5	248.1	6.9	Clear /cloudy brown, organic odour	
29/04/2019		3.17	25.6	349.7	909	6.9	Clear, low turbidity, organic odour	
29/04/2020		6.76	28.6	222.8	3862	8.0	Very Dark Greenish Grey, No Odour, Biosheen Appearance	
6/09/2020		6.03	26.9	79	9405	7.1	Light Olive Brown, No odour, Biosheen Appearance	
27/12/2020		5.23	30.9	290	800	7.0	Brown, No odour, No sheen.	
28/12/2020		6.62	30.2	326	356.3	6.8	Brown, No odour, No sheen.	
29/12/2020		4.89	32.9	254.9	733	6.2	Brown, No odour, No sheen.	
30/12/2020		2.21	28.9	260.4	956	6.1	Reddish Yellow, No odour, No sheen.	
9/02/2021		8.93	31.7	311.7	385.8	8.5	Yellowish brown, No odour, No sheen. Biota in sample (small water insects)	
10/02/2021		2.76	28.4	278	1052	6.9	Yellowish brown, No odour, No sheen.	
12/02/2021		8.00	25.9	366	339.1	7.3	Dark reddish brown, No odour, No sheen.	
13/02/2021		5.45	31.4	299.5	374.1	7.2	Brown, No odour, No sheen.	
22/04/2021		12.04	25.9	265.3	737	9.3	Low turbidity, Pale yellow, Distinct organic odour, Biosheen Appearance	
7/10/2021		9.82	32.1	214.6	17654	8.2	Medium turbidity, Yellow, No odour, No sheen	
26/01/2022		6.62	26.7	271.9	439.1	7.0	Brown, No odour, No sheen.	
27/01/2022		Access unavailable due to flooding - Sample not collected on this day						
28/01/2022		3.85	27.3	295.7	82.4	6.7	Dark reddish brown, No odour, No sheen.	
29/01/2022		4.39	29.5	282.2	154.3	6.5	Pale yellow, No odour, No sheen, Moderate flow	
30/01/2022		5.00	31.0	254.1	181.4	6.7	Brown, No odour, No sheen.	
13/04/2022		6.60	27.9	260.4	2306	9.0	Medium turbidity, Pale yellow, No odour, No sheen,	
17/10/2022		0.70	23.0	355	1518	7.6	Low turbidity, Clear, Slight bio-sheen on water.	
17/04/2023		2.19	29	186.3	8.3	5.9	Low turbidity, Light Olive Brown, Organic odour, Biosheen appearance	
18/04/2023		1.72	28.9	109.1	1119	6.2	Turbid, Dark Reddish Brown, Organic odour, Biosheen appearance	
19/04/2023		1.33	32.2	58	2728	6.3	Turbid, Dark Reddish Brown, Organic odour, Biosheen appearance	
20/04/2023		2.89	30.8	69.9	2602	6.3	Medium turbidity, Light Olive Brown, Organic odour, Biosheen appearance	
21/04/2023		1.40	32.8	47.2	2240	6.2	Turbid, Dark Brown, Organic odour, No sheen	
October 2023		Location DRY						
11/01/2024		5.06	28.3	307.7	681	6.8	Light olive brown, no odour, no sheen	
12/01/2024	4.75	28.8	347.1	825	6.7	Pale yellow, no odour, no sheen		
13/01/2024	1.88	33.6	220.7	901	6.4	Pale yellow, no odour, no sheen		
14/01/2024	3.67	28	279.3	543	6.6	Yellow brown, no odour, no sheen		
15/01/2024	4.52	30.2	294.6	520	6.7	Yellow brown, no odour, no sheen		
20/03/2024	2.97	29.8	218.1	761	7.0	Yellowish brown, no odour, no		
SW019	14/08/2017	3.52	28.41	389.8	1209	8.0	Clear, brown, no odour, low turbidity	
	19/04/2018	9.69	25.2	247	3135	8.9	Low turbidity, clear, algae	
	19/12/2018	9.62	37.2	304.9	282.6	9.0	Clear, no odour, low turbidity	
	1/05/2019	11.80	29.5	242.7	737	8.5	Clear, low turbidity, organic odour	
	30/04/2020	4.31	25.4	236.5	618	7.9	Pale Yellow, No Odour, No Sheen	
	22/04/2021	4.22	24.9	319.4	218.2	7.0	Clear, Pale yellow, No odour, No sheen	
	10/04/2022	6.66	28.2	245.2	186.8	7.0	Low turbidity, Pale yellow, No odour, No sheen.	
	October 2023	Location DRY, redeveloped with cobbles, no water or sediment						
	17/10/2022	Water volume insufficient. Not sampled.						Insufficient water for sampling
	SW112	17/07/2017	5.74	26.6	303.2	1362	8.4	Cl, brown, low turbidity
19/04/2018		5.65	28.6	215.9	1420	6.4		
20/12/2018		5.32	31.9	291	2793	8.1	Brown, low turbidity, organic odour	
3/05/2019		5.17	29.6	248	1959	8.2	Clear, low turbidity, organic odour	
25/10/2019		4.75	28.1	269.1	862	7.6	Clear, low turbidity, no odour.	
27/04/2020		7.23	28.8	177.5	3469	7.8	Light Olive Brown, No Odour, No Sheen	
9/09/2020		26.80	26.9	103.3	4240	7.2	Pale yellow, No odour, No sheen	
27/12/2020		7.20	29.9	333.4	1535	7.5	Yellow, No odour, No sheen.	
28/12/2020		7.22	30.9	295.3	1678	7.7	Brown, No odour, No sheen.	
29/12/2020		7.32	29.6	278.6	1362	7.2	Pale Yellow, No odour, No sheen.	
30/12/2020		7.26	30.2	310.4	1178	6.8	Yellowish Brown, No odour, No sheen.	
31/12/2020		7.42	28.1	312.3	1119	6.9	Pale Yellow, No odour, No sheen.	
9/02/2021		7.83	31.3	296.1	1165	8.4	Light olive brown, No odour, No sheen.	
10/02/2021		7.11	31.1	274.1	992	7.5	Light olive brown, No odour, No sheen.	
11/02/2021		7.40	30	296.8	1051	7.7	Pale yellow, No odour, No sheen.	
12/02/2021		8.10	29.8	280.2	1084	7.7	Pale yellow, No odour, No sheen.	
13/02/2021		7.35	29.9	326.8	1095	7.6	Yellowish brown, Slight Organic Odour, No sheen.	
16/04/2021		6.96	29.5	293.3	1697	7.5	Clear, Pale brown, Weak sulfurous odour, No sheen	
7/10/2021		7.24	32	246.4	2195	7.8	Low turbidity, Pale yellow, No odour, No sheen	
26/01/2022		7.35	28.0	404.1	595.0	7.3	Clear, No odour, No sheen.	
27/01/2022		6.93	29.5	375.3	865.0	6.9	Clear, No odour, No sheen, Moderate flow	
28/01/2022		6.70	27.5	351.4	175.3	6.9	Olive yellow, No odour, No sheen.	
29/01/2022		7.64	28.7	365.7	947.0	7.2	Pale yellow, No odour, No sheen, Moderate flow	
30/01/2022		7.17	28.9	326.5	761.0	7.2	Brown, No odour, No sheen.	
12/04/2022		5.31	31.7	326.3	1410	6.9	Medium turbidity, Pale yellow, No odour, No sheen, Stagnant 5 m wide earthen creek	
7/10/2022		4.67	26.5	360.9	1066	7.4	Clear turbidity, Clear, Still water	
17/04/2023		7.33	29.7	350.7	947	7.0	Clear turbidity, No odour, No sheen	
18/04/2023		7.18	29.2	271.5	916	7.2	Clear turbidity, No odour, No sheen	
19/04/2023		7.18	31.2	252	998	7.3	Clear turbidity, No odour, No sheen	
20/04/2023		7.21	30.6	286.2	1128	7.3	Clear turbidity, No odour, No sheen	
21/04/2023	7.29	30.7	269.2	1166	7.3	Clear turbidity, No odour, No sheen		
3/05/2023	7.19	30.2	197.9	3806	8.0	Low turbidity, Light Olive Brown, No odour, No sheen		
11/10/2023	3.57	28.9	220.6	1577	6.6	Light olive brown, low turbidity, slight organic odour, no sheen		
11/01/2024	6.56	29.4	328.8	1069	7.3	Light olive brown, no odour, no sheen		
12/01/2024	4.46	28.8	317.9	1028	7.2	Light olive brown, no odour, no sheen		
13/01/2024	7.34	30.4	313.7	566	7.2	Clear, no odour, no sheen		
14/01/2024	7.15	29.5	294	1168	7.1	Clear, no odour, no sheen		
15/01/2024	7.45	29.3	304.8	1045	6.9	Clear, no odour, no sheen		
March 2024	No Access - drainage channel overgrown with grass, no access to surface water							

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
SW123	14/08/2017	7.37	25.99	392.2	1385	8.0	Clear, low turbidity, no odour	
	18/04/2018	6.46	30.2	199	1103	8.0	Low turbidity, clear, algae	
	17/12/2018	4.96	32.1	297	289	8.4	Clear, low turbidity, no odour	
	1/05/2019	4.81	27.2	266.7	1314	7.9	Clear, low turbidity, organic odour	
	18/10/2019	6.35	29.5	261.9	877	7.4	Clear brown, low turbidity, organic odour.	
	29/04/2020	1.81	25.9	230.2	1811	7.3	Dark Olive Brown, No Sheen	
	10/09/2020	6.02	23.6	339.2	988	7.1	Pale yellow, No odour, No sheen	
	27/12/2020	5.65	29	328.6	194.3	6.9	No odour, Biosheen.	
	28/12/2020	6.70	30.1	273.4	273.8	7.2	Brown, No odour, Slight sheen,	
	29/12/2020	6.11	30.1	281.1	94.4	7.0	Brown, No odour, No sheen.	
	30/12/2020	5.90	28.1	264.7	34.3	6.6	Yellowish Brown, No odour, No sheen.	
	31/12/2020	6.70	28.8	288.5	81.2	7.0	Pale Yellow, No odour, No sheen.	
	9/02/2021	6.91	31.4	329.8	398.9	7.2	Yellowish brown, No odour, No sheen.	
	10/02/2021	5.98	30.4	263.8	325.6	7.7	Light olive brown, No odour, No sheen.	
	11/02/2021	7.77	28.2	315.6	130.5	7.6	Yellowish brown, No odour, No sheen.	
	12/02/2021	5.57	27	262	173.3	7.3	Pale yellow, No odour, No sheen.	
	13/02/2021	8.81	32.9	270.4	392.4	7.7	Light olive brown, No odour, No sheen.	
	22/04/2021	2.23	25.9	327.3	391.1	6.7	Low turbidity, Pale yellow, Distinct organic odour, No sheen	
	7/10/2021	5.59	33	215.4	1245	7.6	Low turbidity, Pale yellow, No odour, No sheen	
	26/01/2022	6.64	27.5	342.3	49.7	6.9	Clear, No odour, No sheen,	
	27/01/2022	6.24	29.3	349.6	55.1	6.5	Clear, No odour, No sheen,	
	28/01/2022	5.23	28.0	336.9	252.0	6.6	Clear, No odour, No sheen,	
	29/01/2022	6.12	31.2	298.3	189.2	6.8	Pale yellow, No odour, No sheen, No flow	
	30/01/2022	5.09	31.7	288.4	353.7	6.8	Brown, No odour, No sheen,	
	10/04/2022	5.42	27.4	289.4	514	7.0	Low turbidity, Pale yellow, No odour, No sheen,	
	17/10/2022	1.56	28.0	392.3	625	6.8	Low turbidity, Yellowish Brown, Still water	
	17/04/2023	6.15	27.2	315.6	160.9	7.0	Low turbidity, Light Olive Brown, No odour, No sheen	
	18/04/2023	4.45	27.3	270.3	275.5	7.4	Low turbidity, No odour, No sheen	
	19/04/2023	4.77	31.8	289.6	440.5	7.0	Clear turbidity, No odour, No sheen	
	20/04/2023	3.96	29.8	301.3	632	6.8	Clear turbidity, No odour, No sheen	
21/04/2023	4.28	30.2	285.2	775	7.0	Low turbidity, Light Olive Brown, No odour, No sheen		
11/10/2023	5.00	30.8	-	5661	8.0	Light olive brown, low turbidity, no odour, no sheen		
11/01/2024	7.61	28.3	198.9	157.7	8.7	Light olive brown, no odour, no sheen		
12/01/2024	7.77	28.9	194.6	294.7	8.7	Clear, no odour, no sheen		
13/01/2024	8.69	32.1	234.9	408.7	7.5	Yellow brown, no odour, no sheen		
14/01/2024	7.19	27.9	184.2	324.6	7.1	Light olive brown, no odour, no sheen		
15/01/2024	7.91	30.4	181.5	198.7	8.4	Brown, no odour, no sheen		
20/03/2024	3.32	30.5	271.1	2183	7.2	Pale yellow, no odour, no		
SW125	14/08/2017	4.98	22.98	372	2153	7.3	Clear, low turbidity, no odour, sampled @ drain outlet	
	11/04/2018	3.55	30.3	198.6	2526	7.5	Low turbidity, clear, algae	
	17/12/2018	3.78	29.1	312	201.5	7.8	Clear to slightly cloudy, low to moderate turbidity, no odour	
	1/05/2019	2.14	24.5	427.1	3600	5.9	Clear, low turbidity, organic odour	
	15/10/2019	2.70	29.5	369.7	7866	7.0	Clear/brown, moderate turbidity, organic odour.	
	27/04/2020	13.62	25.8	195.1	4174	10.1	Greenish Black, No Odour, No Sheen	
	7/09/2020	4.84	32.7	52	5491	7.2	Dark Brown, Putrefied, Biosheen Appearance	
	27/12/2020	3.49	31.8	551.8	12792	3.6	Pale yellow, No odour, No sheen.	
	28/12/2020	8.63	33.9	319.1	6437	7.0	Brown, No odour, No sheen.	
	29/12/2020	8.22	36.3	318.4	2016	6.5	Yellowish Brown, No odour, No sheen.	
	30/12/2020	5.69	30.2	300.9	821	6.2	Yellowish Brown, No odour, No sheen.	
	31/12/2020	3.94	28.1	295.4	336.7	6.3	Yellowish Brown, No odour, No sheen.	
	9/02/2021	3.86	29.7	349.9	1644	6.5	Light olive brown, No odour, No sheen.	
	10/02/2021	6.57	30.9	278.8	1450	7.1	Light olive brown, No odour, No sheen.	
	11/02/2021	8.60	28.8	316.8	371.3	7.4	Yellow, No odour, No sheen.	
	12/02/2021	7.10	26.6	260.3	540	7.1	Yellowish brown, Slight Organic Odour, Biosheen Appearance.	
	13/02/2021	10.63	32.6	248.6	1190	7.8	Yellowish brown, Slight Organic Odour, No sheen.	
	22/04/2021	5.80	25.4	344.1	2671	7.2	Low turbidity, Pale yellow, No odour, No sheen	
	26/01/2022	6.91	26.2	356.9	266.0	7.6	Clear, No odour, No sheen,	
	27/01/2022	6.44	29.9	346.4	106.6	6.4	Clear, No odour, No sheen,	
	28/01/2022	5.09	27.2	326.2	133.5	6.6	Light olive brown, No odour, No sheen,	
	29/01/2022	7.04	29.9	337.2	249.0	6.9	Pale yellow, No odour, No sheen,	
	30/01/2022	5.75	31.5	306.8	531.0	7.2	Yellowish brown, No odour, No sheen,	
	13/04/2022	5.08	31	288.3	6746	8.8	Low turbidity, Yellow, No odour, No sheen, Still water body approx. 5 m wide	
	17/10/2022		Insufficient water for water quality parameters					Insufficient water for sampling
	17/04/2023	7.05	27.5	320.3	6.7	6.7	Low turbidity, Light Olive Brown, No odour, No sheen	
	18/04/2023	11.42	29.3	276.9	708	8.6	Clear turbidity, Organic odour, No sheen	
	19/04/2023	12.53	36	231.4	1258	9.4	Clear turbidity, Light Olive Brown, No odour, No sheen	
	20/04/2023	10.15	30.4	301.9	1078	7.5	Low turbidity, No odour, No sheen	
	21/04/2023	10.58	33.6	286.7	2393	7.9	Low turbidity, Light Olive Brown, No odour, No sheen	
October 2023		Location DRY						
11/01/2024	9.21	30.6	183.7	537	9.0	Light olive brown, no odour, no sheen		
12/01/2024	9.69	29.8	190.5	2460	9.2	Light olive brown, no odour, no sheen		
13/01/2024	5.65	31.2	219.4	1642	6.6	Yellow brown, sulfurous odour, no sheen		
14/01/2024	4.86	28	132.8	1416	6.4	Yellow brown, no odour, no sheen		
15/01/2024	8.86	33.9	154.4	716	8.8	Yellow brown, no odour, no sheen		
20/03/2024	2.72	32.4	268.9	3811	6.4	Yellowish brown, no odour, no		
SW126	14/08/2017	7.34	24.43	382.7	1316	7.9	Clear, low turbidity, no odour	
	17/04/2018	0.55	30	210.3	738	7.9		
	17/12/2018	3.25	32.1	327.3	2236	7.8	Clear/cloudy, no odour	
	2/05/2019	3.94	27.2	223	1014	8.3	Clear, low turbidity, organic odour	
	17/10/2019	6.68	29.6	279.1	449.7	9.4	Clear, low turbidity, no odour.	
	29/04/2020	3.88	30.5	186.4	1526	8.4	Light Olive Brown, No Odour, No Sheen	
	9/09/2020	8.88	26.2	134.1	934	7.9	Pale yellow, No odour, No sheen	
	22/04/2021	3.37	25.1	383	2202	6.8	Low turbidity, Pale yellow, No odour, No sheen	
	7/10/2021	11.58	30.8	204.2	883	9.1	Clear, Clear, No odour, No sheen	
	10/04/2022	7.78	29.1	307.7	588	7.6	Medium turbidity, Pale yellow, No odour, No sheen, Lake fringed by reeds, no flow.	
	19/10/2022	6.22	28.2	288.3	776	8.0	Clear, Stagnant, still flow. Lilies on water's surface. Long grass around water's edge.	
	20/04/2023	10.49	29.9	249.8	2813	7.5	Clear turbidity, No odour, No sheen	
	11/10/2023	5.68	28	230.6	890	8.3	Light olive brown, low turbidity, no odour, no sheen	
	28/03/2024	2.29	28	386.8	791	7.0	Dark reddish brown, no odour, no	
	SW131	11/04/2018	1.69	24.3	68.5	777	6.4	
19/12/2018		2.31	33.7	261.5	2040	8.3	No comments recorded	
29/04/2019		0.39	25.6	204.2	759	6.5	Clear, low turbidity, organic odour & organic sheen	
18/10/2019		5.00	28.2	308	3627	6.5	Clear brown, moderate turbidity, organic odour.	
29/04/2020		2.95	31.5	194.4	1937	6.7	Yellowish Brown, No Odour, No Sheen	
9/09/2020		9.74	30.1	70	4267	6.9	Dark Reddish Brown, No odour, No sheen	
27/12/2020		12.90	28.6	379.2	4679	6.5	Brown, No odour, Biosheen.	
28/12/2020		9.92	30.1	278.9	3432	6.1	Pale Yellow, No odour, Slight sheen.	
29/12/2020		2.88	28.5	216.2	1151	5.5	Brown, No odour, No sheen.	
30/12/2020		2.08	27.6	143.6	711	6.0	Reddish Yellow, Sulfurous Organic Odour, No sheen.	
31/12/2020		4.10	28	294.1	692	6.2	Pale Yellow, No odour, No sheen.	
9/02/2021		2.52	28.2	91.9	789	6.6	Olive yellow, Distinct sulfurous odour, Biosheen Appearance.	
10/02/2021		2.33	26.8	68.6	1306	6.8	Yellowish brown, Strong sulfurous odour, No sheen.	
11/02/2021		2.93	27.4	134.4	883	6.9	Dark reddish brown, Strong sulfurous odour, Biosheen Appearance.	
12/02/2021		3.84	26.1	158	902	6.8	Light olive brown, Very strong sulfurous odour, Biosheen Appearance.	
13/02/2021		2.31	29.3	141	866	6.8	Dark reddish brown, Very strong sulfurous odour, No sheen.	
16/04/2021		0.57	25.6	152.5	1027	6.5	Clear, Pale yellow, No odour, No sheen	
7/10/2021		7.40	30.8	270.5	3618	7.1	Low turbidity, Pale yellow, No odour, No sheen	
26/01/2022		2.85	25.4	152.8	910.0	6.5	Brown, Rotten egg smell (sulfurous) (Distinct), No sheen,	
27/01/2022		2.74	27.9	179.2	662.0	6.5	Brown, Rotten egg smell (sulfurous) (Distinct), No sheen,	
28/01/2022		5.24	27.1	208.9	90.4	6.6	Dark reddish brown, Rotten egg smell (sulfurous) (Very strong), No sheen, Foam on surface of water, could be biofoam or PFAS foam.	
29/01/2022		4.00	28.0	101	170.9	6.3	Yellow, Rotten egg smell (sulfurous) (Strong), No sheen, Strong flow	
30/01/2022		4.01	28.9	91	237.6	6.7	Brown, Rotten egg smell (sulfurous) (Distinct), No sheen, Strong flow	
10/04/2022		2.33	25.5	229.5	1449	7.1	Low turbidity, Pale yellow, Sulfurous odour, Biosheen, Drain to standing water, no flow, reeds at bank and throughout water body.	
19/10/2022		2.57	26.5	304.8	1230	7.5	Low turbidity, Yellow, organic odour, Stagnant, still flow. Algae on water's surface. Long grass around water's edge.	
17/04/2023		7.95	26.1	223	1	6.1	Low turbidity, Light Olive Brown, Slight organic odour, No sheen	
18/04/2023		2.60	26.1	121.7	1086	6.5	Low turbidity, Light Olive Brown, No odour, No sheen	
19/04/2023		1.86	27.6	87.1	999	6.8	Clear turbidity, Light Olive Brown, No odour, No sheen	
20/04/2023		2.12	27.9	72.6	1156	6.9	Clear turbidity, Light Olive Brown, Slight organic odour, No sheen	
21/04/2023		1.72	30.6	84.1	1166	6.6	Low turbidity, Dark Brown, Organic odour, No sheen	
11/10/2023	10.81	29.3	294.8	2306	8.3	Light olive brown, low turbidity, no odour, no sheen		
11/01/2024	3.19	26.9	96.1	1003	6.6	Reddish yellow, sulfurous odour, no sheen		
12/01/2024	2.81	26.9	103	1254	6.3	Dark reddish brown, sulfurous odour, no sheen		
13/01/2024	2.79	29.1	101.6	1075	6.5	Yellow brown, sulfurous odour, no sheen		
14/01/2024	2.06	28.1	99.2	975	6.3	Yellow brown, sulfurous odour, no sheen		
15/01/2024	3.33	28.6	75.5	981	6.5	Dark reddish brown, sulfurous odour, no sheen		
20/03/2024	0.76	28.4	82.9	1171	6.7	Yellowish brown, hydrogen sulphide odour, no		

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment		
On-Base - Mundy Creek Catchment									
SW001	14/08/2017	17.02	32.89	382.4	4602	10.1	Clear, algae in the channel drain, low turbidity		
	19/04/2018	9.96	27.9	236.3	3147	9.1	clear, low turbidity, algae		
	18/12/2018	9.63	34.3	320	2153	8.8	Clear, no odour, some algae		
	2/05/2019	10.26	29.7	254.9	989	9.3	Clear, low turbidity, no odour		
	14/10/2019	4.93	29	352.1	506	9.0	Clear, low turbidity, no odour.		
	28/04/2020	9.35	29	200.6	2652	8.1	Clear, No Odour, Biosheen Appearance		
	23/09/2020	10.82	26.5	315.4	1731	8.1	Olive Yellow, Organic Odour, No sheen		
	22/04/2021	4.61	25.5	296.6	756	7.6	Clear, Pale yellow, No odour, No sheen		
	7/10/2021	13.13	33.4	225.4	2018	8.8	Low turbidity, Pale yellow, No odour, No Sheen		
	13/04/2022	7.83	29.8	245.1	1863	9.5	Medium turbidity, Pale yellow, No odour, No sheen, Windy, water moving in 0.5 m wide channel in concrete culvert.		
	17/10/2022			Water volume insufficient. Not sampled.				Stagnant water. Insufficient volume for sampling	
	20/04/2023	8.77	31	306.7	4196	7.7	Clear turbidity, No odour, No sheen		
	11/10/2023	9.14	29.6	270.5	2150	8.4	Light olive brown, low turbidity, no odour, no sheen		
	20/03/2024	6.89	32.9	237.5	3797	8.8	Clear, no odour, no		
SW010	14/08/2017	11.17	29.76	429.8	910	7.8	Yellow, Clear, organic matter in bed of drain channel, low turbidity		
	11/04/2018	4.05	32.4	213	1915	8.2	Low turbidity, clear, algae		
	14/12/2018	2.43	28.3	303	1203	7.5	Clear, low flow		
	2/05/2019	9.89	32.2	257.9	1063	8.6	Clear, low turbidity, organic odour		
	28/04/2020	13.77	26.7	262.3	869	8.0	Light Olive Brown, No Odour, Biosheen Appearance		
	23/09/2020	5.58	25.2	284.7	1766	6.2	Reddish Yellow, Organic Odour, Biosheen Appearance		
	27/12/2020	1.84	27.3	367.7	360.3	6.7	Pale yellow, No odour, No sheen. Cane toad eggs in drain		
	28/12/2020	2.98	28.1	282.1	247.6	6.7	Brown, No odour, No sheen.		
	29/12/2020	2.48	28.1	301.6	166.1	6.2	Pale Yellow, Organic Odour, No sheen.		
	30/12/2020	6.58	28.9	314.2	104.9	6.6	Yellowish Brown, No odour, No sheen.		
	31/12/2020	4.15	27.8	307.1	275.9	6.7	Yellowish Brown, No odour, No sheen.		
	9/02/2021	2.04	28.8	170.1	431.4	7.1	Yellowish brown, No odour, No sheen.		
	10/02/2021	3.44	29.9	218.8	389.7	7.4	Yellowish brown, No odour, No sheen.		
	11/02/2021	4.94	27.8	311.9	505	7.2	Brown, No odour, No sheen.		
	12/02/2021	5.29	27.3	266.5	467.5	7.2	Yellowish brown, No odour, No sheen.		
	13/02/2021	3.39	28.9	178.1	541	7.6	Pale yellow, Weak sulfurous odour, No sheen.		
	22/04/2021	6.28	-	310.8	3553	7.8	Low turbidity, Pale yellow, Distinct putrefied odour, No sheen		
	7/10/2021	14.57	33.7	175.4	466.3	9.5	Low turbidity, Pale yellow, No odour, No Sheen		
	26/01/2022	7.37	28.2	359.3	47.9	7.4	Brown, No odour, No sheen, Cane toads in drain		
	27/01/2022	4.70	29.9	317.7	429.4	7.1	Clear, No odour, No sheen.		
	28/01/2022	4.04	27.2	329.4	374.3	7.7	Clear, No odour, No sheen.		
	29/01/2022	3.73	30.6	295.1	509.0	7.0	Pale yellow, No odour, No sheen, No flow		
	30/01/2022	3.29	30.8	296.7	705.0	6.9	Clear, No odour, No sheen.		
	13/04/2022	10.82	30	265.4	1546	8.7	Low turbidity, Yellow, No odour, No sheen, Still water in 2 m wide concrete culvert		
	17/10/2022	1.57	29.7	219.9	5187	7.7	Low turbidity, Yellow, Still, vegetation growing in water body.		
	17/04/2023	6.47	28.5	315.4	214.9	7.0	Clear turbidity, No odour, No sheen		
	18/04/2023	6.02	27.9	283.1	768	7.2	Clear turbidity, Slight organic odour, No sheen		
	19/04/2023	5.11	30.7	252.5	1202	7.4	Clear turbidity, No odour, No sheen		
	20/04/2023	2.97	29.4	266.2	1580	7.4	Low turbidity, Light Olive Brown, No odour, No sheen		
	21/04/2023	3.01	29.7	275.3	1995	7.4	Clear turbidity, No odour, No sheen		
	11/10/2023	4.93	30.9	280.4	778	7.1	New cobble drain		
	11/01/2024	6.11	28.9	255.5	407.7	7.8	Light olive brown, no odour, no sheen		
	12/01/2024	5.49	28.3	260	788	7.5	Pale yellow, no odour, no sheen		
	13/01/2024	8.75	34.9	270.1	1576	7.1	Pale yellow, no odour, no sheen		
	14/01/2024	6.18	28.7	228.9	249.5	7.1	Light olive brown, no odour, no sheen		
	15/01/2024	5.99	30.5	242.4	917	7.3	Light olive brown, no odour, no sheen		
	20/03/2024	3.68	32.5	268.8	3337	7.6	Clear, no odour, no		
	20/03/2024	7.82	29.1	344	10151	7.3	Yellowish brown, no odour, no		
	SW106	16/08/2017	16.34	23.96	181.6	2773	8.3		
		25/04/2020	12.55	32.6	196	69999	8.7	Greenish Black, Putrefied, No Sheen	
		23/09/2020	11.06	34.1	283.3	88857	7.8	Black, Organic Odour, Biosheen Appearance	
		13/04/2022	5.68	33.3	313.8	96823	6.9	Medium turbidity, Pale yellow, No odour, No sheen, Still water	
17/10/2022		2.92	36.0	377.6	-	6.6	Still water		
11/10/2023		4.21	32.2	271.1	105434	8.2	Light olive brown, low turbidity, no odour, biosheen appearance		
March 2024		Flooded tracks, unable to access sampling point							
SW121	18/12/2018	1.60	33.7	282.6	1137	7.5	Brown, organic matter, no odour		
	27/12/2020	7.17	30.4	332.5	233.7	7.0	Yellowish Red, No odour, No sheen.		
	28/12/2020	6.65	29.9	302.8	164.5	6.7	Yellowish Red, No odour, No sheen.		
	29/12/2020	7.68	32.1	315	384.6	6.3	Yellowish Brown, No odour, Biosheen.		
	30/12/2020	5.45	30.3	361.4	426.2	6.2	Yellow, No odour, Biosheen.		
	31/12/2020	5.03	28.4	343.7	291.8	6.4	Yellowish Brown, No odour, No sheen.		
	9/02/2021	2.44	30.7	296.4	338.8	6.9	Light olive brown, No odour, No sheen.		
	10/02/2021	5.07	33	283.4	334.6	7.2	Light olive brown, No odour, No sheen.		
	11/02/2021	5.27	28.4	317.3	88	6.9	Yellow, No odour, No sheen.		
	12/02/2021	6.83	29.6	253.8	114.5	7.2	Pale yellow, No odour, No sheen.		
	13/02/2021	11.47	31	316.8	446.9	7.2	Pale yellow, No odour, Biosheen Appearance.		
	22/04/2021	5.17	24.5	303.2	117.5	7.3	Low turbidity, Pale yellow, No odour, No sheen		
	26/01/2022	7.06	27.3	378.9	55.0	6.9	Brown, No odour, No sheen,		
	27/01/2022	2.00	32.4	319.2	225.5	6.6	Brown, No odour, No sheen,		
	28/01/2022	3.89	27.9	297	269.7	6.8	Clear, No odour, No sheen,		
	29/01/2022	2.30	31.8	117.1	485.8	6.9	Pale yellow, No odour, Slight sheen,		
	30/01/2022	4.16	34.0	308.9	687.0	7.2	Brown, No odour, Biosheen appearance, Biosheen present one metre downstream from sample		
	10/04/2022	2.39	28.2	244.8	383.8	7.6	Low turbidity, Light olive brown, No odour, No sheen,		
	17/10/2022		Dry. Not sampled.						Thick vegetation growing where water would flow.
	18/04/2023	2.78	26.2	188.3	712	6.6	Clear turbidity, Light Olive Brown, Slight organic odour, Biosheen appearance		
	19/04/2023	2.50	30	186.2	1092	6.4	Medium turbidity, Light Olive Brown, No odour		
	20/04/2023	5.33	28.5	223.4	285.3	7.0	Medium turbidity, Light Olive Brown, No odour, Biosheen appearance		
	21/04/2023	2.93	30	237.9	963	6.4	Medium turbidity, Light Olive Brown, Slight organic odour, Biosheen appearance		
	22/04/2023	2.40	26.5	109.7	1008	6.4	Medium turbidity, Light Olive Brown, Slight organic odour, Biosheen appearance		
	October 2023		Location DRY						
	11/01/2024	4.15	28.5	260.9	226.2	7.3	Light olive brown, no odour, no sheen		
	12/01/2024	6.46	30.1	325.5	352.9	6.8	Light olive brown, no odour, biosheen		
	13/01/2024	5.22	31.6	574.6	366.2	5.2	Yellow brown, no odour, no sheen		
	14/01/2024	4.20	28.4	226	194.6	6.9	Light olive brown, no odour, no sheen		
	15/01/2024	3.50	28.2	299.3	93.7	6.5	Yellow brown, no odour, no sheen		
	28/03/2024	2.12	27.7	143.8	814	6.4	Dark reddish brown, rotten egg smell, biosheen		
	SW132	11/04/2018	10.50	32.2	192	3300	9.7	Low turbidity, clear, algae, invert	
17/12/2018		10.86	34.3	1251	1273	8.5	clear, low turbidity, no odour		
14/10/2019		3.04	26.8	357.9	971	8.7	Clear, low turbidity, no odour.		
28/04/2020		16.51	26.9	222.3	2285	8.9	Clear, No Odour, No Sheen		
23/09/2020		7.90	27.5	290	1861	9.2	Pale yellow, No odour, No sheen		
27/12/2020		11.30	30.1	322.9	1427	9.5	No odour, No sheen.		
28/12/2020		10.82	32.2	345.6	847	8.6	Brown, No odour, No sheen.		
29/12/2020		11.25	34.7	330.2	1106	8.0	Pale Yellow, No odour, No sheen.		
30/12/2020		7.41	29.3	278.8	168.5	7.1	Yellowish Brown, No odour, No sheen.		
31/12/2020		10.01	28.5	354.6	358.2	7.7	Pale Yellow, No odour, No sheen.		
9/02/2021		10.72	29.6	248.7	1084	8.2	Pale yellow, No odour, No sheen.		
10/02/2021		10.44	32.1	252.2	817	9.2	Light olive brown, No odour, No sheen.		
11/02/2021		8.13	28.6	302	424.8	8.0	Yellowish brown, No odour, No sheen.		
12/02/2021		9.00	28.2	268.2	380.3	7.8	Pale yellow, No odour, No sheen.		
13/02/2021		13.93	35.4	249.6	1869	9.2	Pale yellow, No odour, No sheen.		
22/04/2021		7.77	24.7	291.2	764	8.7	Clear, Pale yellow, No odour, No sheen		
7/10/2021		11.84	29.5	215.3	1885	8.7	Low turbidity, Pale yellow, No odour, No sheen		
26/01/2022		7.55	27.9	378.8	88.7	6.9	Brown, No odour, No sheen, Strong flow		
27/01/2022		9.31	30.4	308.7	1087.0	7.8	Brown, No odour, No sheen,		
28/01/2022		10.13	28.3	308.6	916.0	7.7	Clear, No odour, No sheen,		
29/01/2022		11.53	32.3	287.9	1131.0	8.3	Pale yellow, No odour, No sheen, No flow		
30/01/2022		12.90	34.8	257.7	2077.0	8.9	Clear, No odour, No sheen,		
13/04/2022		8.63	27.9	259.8	2578	9.5	Medium turbidity, Pale yellow, No odour, No sheen, Windy, water 1 m wide in concrete culvert		
17/10/2022			Dry. Not sampled.						Dry
17/04/2023		8.81	28.8	288.7	337.8	8.0	Clear turbidity, No odour, No sheen		
18/04/2023		14.42	28.3	260.2	1607	8.8	Clear turbidity, No odour, No sheen		
19/04/2023		13.34	33	227.8	2550	8.9	Clear turbidity, No odour, No sheen		
20/04/2023		13.75	33.1	262.9	3051	8.9	Medium turbidity, No odour, No sheen		
21/04/2023		14.50	31.6	243.3	3404	9.0	Low turbidity, No odour, No sheen		
11/10/2023		16.38	29.5	259.5	1929	9.4	Light olive brown, medium turbidity, slight organic odour, no sheen		
11/01/2024		7.62	28.9	273	446.5	7.7	Light olive brown, no odour, no sheen		
12/01/2024		13.59	29.4	271.5	1693	8.4	Clear, no odour, no sheen		
13/01/2024		14.80	36.7	230.7	2182	8.9	Clear, no odour, no sheen		
14/01/2024		7.57	29.1	233.7	245	7.1	Light olive brown, no odour, no sheen		
15/01/2024	10.77	31.2	231.2	889	8.2	Light olive brown, no odour, no sheen			
20/03/2024	8.82	34.7	225.1	3452	9.3	Clear, no odour, no			

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
On-Base - Three Mile Creek Catchment								
SW102	16/04/2018	0.82	28.1	99.2	1796	6.2	moderate turbidity, brown, organic matter	
	17/12/2018	3.04	34.2	266	308	7.4	Clear, organic matter	
	10/05/2019	2.03	23	235.7	5425	7.2	Clear, low turbidity, organic odour	
	17/10/2019	0.19	29.9	224.1	11544	7.4	Clear/ brown, moderate turbidity, organic odour, organic matter.	
	29/04/2020	9.47	26.2	214.5	7257	8.3	Pale Yellow, No Odour, Biosheen Appearance	
	9/09/2020	3.36	33.6	32.1	70837	7.2	Yellowish Brown, Compost, Biosheen Appearance	
	27/12/2020	4.96	29.4	328	304.9	6.4	Brown, No odour, No sheen. Dead toad in drain	
	28/12/2020	4.84	29.6	286.2	379.1	7.0	Brown, No odour, No sheen.	
	29/12/2020	4.76	31.4	272.2	229.3	6.2	Brown, No odour, No sheen.	
	30/12/2020	4.47	29.9	287.3	310.8	6.5	Yellowish Brown, No odour, No sheen.	
	31/12/2020	4.71	27	284.7	153.2	6.4	Yellowish Brown, No odour, No sheen.	
	9/02/2021	4.94	30.8	341.5	729	7.2	Light olive brown, No odour, No sheen.	
	10/02/2021	3.26	27.8	246.3	727	6.7	Dark olive brown, Weak sulfurous odour, No sheen.	
	11/02/2021	6.54	27.6	256.9	1066	7.1	Yellowish red, Slight Organic Odour, No sheen. Pump on	
	12/02/2021	2.72	25.4	239.4	1198	6.9	Yellowish red, No odour, Biosheen Appearance. Pump on	
	13/02/2021	3.70	30	239.1	2350	7.0	Yellowish brown, Slight Organic Odour, Biosheen Appearance.	
	22/04/2021	2.64	25.9	331.1	4850	6.8	Low turbidity, Pale yellow, No odour, Biosheen Appearance	
	7/10/2021	1.63	26.4	95.4	18914	7.1	Low turbidity, Pale yellow, No odour, Biosheen Appearance	
	26/01/2022	6.93	26.9	319.1	123.9	7.2	Clear, No odour, No sheen.	
	27/01/2022	5.71	27.9	305.3	86.8	6.8	Clear, No odour, No sheen.	
	28/01/2022	4.63	26.8	311.8	162.7	6.6	Dark reddish brown, No odour, No sheen.	
	29/01/2022	4.63	29.7	253.7	233.9	6.5	Pale yellow, No odour, No sheen, Weak flow	
	30/01/2022	3.06	30.0	272.6	349.1	6.6	Brown, No odour, No sheen.	
	13/04/2022	1.87	28.5	312.6	14825	8.1	Medium turbidity, Pale yellow, No odour, No sheen, Still 1 m wide water in earthen culvert	
	17/10/2022		Water volume insufficient. Not sampled.					Stagnant. Algae on water's surface.
	17/04/2023	6.36	27.4	239.5	347.3	6.7	Turbid, Light Olive Brown, No odour, No sheen	
	18/04/2023	6.75	27.5	234.7	1159	6.7	Medium turbidity, Light Olive Brown, No odour, Biosheen appearance	
	19/04/2023	7.70	30.9	215.1	1688	7.0	Clear turbidity, No odour, No sheen	
	20/04/2023	8.19	29.9	286.4	2293	7.2	Clear turbidity, Light Olive Brown, No odour, No sheen	
	21/04/2023	8.64	31.7	210.2	3161	7.0	Low turbidity, Light Olive Brown, No odour, No sheen	
	October 2023		Location DRY					
	11/01/2024	6.37	26.8	340.3	206.7	7.0	Light olive brown, no odour, no sheen	
12/01/2024	5.21	28.1	318.4	289.1	7.2	Pale yellow, no odour, no sheen		
13/01/2024	4.81	30.7	283.9	433.7	6.9	Yellow brown, no odour, no sheen		
14/01/2024	4.75	27.8	288.3	520	6.3	Yellow brown, no odour, no sheen		
15/01/2024	3.84	29.1	298.7	585	6.5	Yellow brown, no odour, no sheen		
Off-Base - Bohle River/Louisa Creek/Town Common Catchment								
SW017	17/07/2017	3.43	22.8	322.3	3375	7.8	Cl, brown, low turbidity	
	11/04/2018	1.79	27.5	280.2	3287	7.1	clear, low turbidity	
	11/12/2018	2.98	27	336.4	204.4	7.2	Cloudy, low turbidity, no odour,	
	9/05/2019	2.89	24.2	308	2889	7.9	Clear, low turbidity, organic odour	
	24/10/2019	4.42	25	347.4	2848	7.8	Clear, low turbidity, no odour.	
	5/05/2020	6.00	27	210.8	3719	7.9	Very Dark Greenish Grey, No Odour, Slight Sheen	
	8/09/2020	11.63	28	81	3509	8.2	Olive Yellow, No odour,	
	27/12/2020	5.33	27.7	381	464.9	7.2	Pale yellow, No odour, Slight sheen, Rubbish present in drain	
	28/12/2020	6.83	28.2	346.6	65.6	7.3	Brown, No odour, Slight sheen.	
	29/12/2020	6.20	27.3	346	165	7.0	Light Olive Brown, No odour, Oil sheen.	
	30/12/2020	6.25	27.2	362.7	159	6.6	Yellowish Brown, No odour, Oil sheen.	
	31/12/2020	6.62	26.4	344.6	126.5	6.9	Light Olive Brown, No odour, Oil sheen.	
	9/02/2021	5.95	29.2	331.7	255.9	7.0	Light olive brown, No odour, Slight oil sheen.	
	10/02/2021	5.31	28.9	293.6	216.9	7.4	Dark olive brown, No odour, Slight oil sheen.	
	11/02/2021	6.56	26.9	286.6	279.3	7.6	Brown, No odour, Oil sheen.	
	12/02/2021	5.11	27.6	298.4	518	7.3	Light olive brown, No odour, Slight oil sheen.	
	13/02/2021	4.27	28.9	289.4	383.3	7.3	Light olive brown, No odour, Slight oil sheen.	
	15/04/2021	5.56	27.6	252.6	2618	7.7	Clear, Pale yellow, No odour, Sheen	
	6/10/2021	2.71	30.3	203.9	4186	7.8	Clear, Pale yellow, No odour, No sheen	
	26/01/2022	6.05	27.0	364.4	105.5	7.3	Clear, HC odour, Sheen, Lots of debris - litter, leaves and sticks	
	27/01/2022	5.38	27.5	341.5	137.2	6.9	Clear, HC odour, Slight sheen, Hydrocarbon sheen	
	28/01/2022	6.45	27.6	347.4	141.4	7.4	Olive yellow, No odour, No sheen, No sheen	
	29/01/2022	4.21	28.7	310.6	534.0	7.0	Pale yellow, No odour, Slight sheen, Hydrocarbon sheen	
	30/01/2022	3.39	28.6	312.4	816.0	7.1	Clear, No odour, No sheen, Lots of debris - litter, leaves and sticks	
	11/04/2022	2.03	29.8	133.1	2451	7.3	Low turbidity, Pale yellow, No odour, No sheen, Still, earthen 1 m wide creek.	
	17/04/2023	7.56	25.1	246.5	2.4	7.0	Turbid, Light Olive Brown, No odour, No sheen	
	18/04/2023	3.44	27.5	282.3	531	6.9	Clear turbidity, No odour, No sheen	
	19/04/2023	3.56	29.6	276	945	7.1	Clear turbidity, No odour, No sheen	
	20/04/2023	3.66	29.2	294	1592	7.1	Clear turbidity, No odour, No sheen	
	21/04/2023	3.43	27.8	281.8	1698	7.0	Clear turbidity, No odour, No sheen	
	7/10/2022	4.32	26.6	348.2	713	8.7	Low turbidity, Pale Yellow, Grass cutting in progress near sample location.	
	11/03/2023	1.82	29.3	212.4	1698	7.2	Clear, no odour, no	
9/10/2023	3.35	28.7	149.1	1380	7.4	Brown, low turbidity, no odour, no sheen		
11/01/2024	5.77	27.7	318.6	95.6	7.2	Light olive brown, no odour, slight hydrocarbon sheen		
12/01/2024	3.62	29.1	315.4	267.1	7.0	Pale yellow, no odour, no sheen		
13/01/2024	3.96	29.9	299.7	536	6.8	Pale brown, no odour, no sheen		
14/01/2024	3.63	28.3	171	652	6.6	Clear, no odour, no sheen		
15/01/2024	6.17	27.1	269.8	117.3	7.1	Brown, no odour, no sheen		
SW021	17/07/2017	3.56	19.4	293.8	3351	8.2	Cl, brown, low turbidity	
	11/12/2018	4.38	28.9	316.2	340	7.4	Cloudy yellow, pooled, no flow, organic odour	
	23/09/2020	5.26	26.9	169	2542	7.2	Olive Yellow, Rotten egg smell (sulfurous), No sheen	
	15/04/2021	4.31	28.5	124.4	1592	7.5	Clear, Pale yellow, No odour, No sheen	
	6/10/2021	2.31	32	9.3	1876	7.0	Low turbidity, Yellowish Brown, Sulfurous odour, No sheen	
	11/04/2022	9.95	32.5	350.3	1488	7.1	Low turbidity, Pale yellow, No odour, No sheen, 1 m wide earthen creek culvert.	
	7/10/2022	0.86	25.1	322.3	698	8.7	Turbid turbidity, Brown, organic odour, Still water	
	3/05/2023	8.52	30.1	271.6	4537	7.9	Clear turbidity, Light Olive Brown, No odour, No sheen	
	21/04/2023	-	-	-	-	-	-	
	9/10/2023	4.80	29.2	281.4	501	7.4	Light olive brown, clear turbidity, no odour, no sheen	
11/03/2024	2.60	29.5	236.5	1570	7.2	Clear, no odour, no		
SW110	18/08/2017	3.36	21.8	184.7	973	7.2	black, sludge, organic saturate, Low turbidity	
	11/04/2018		25.9	236.9	958	6.4	brown, mod turbidity, organic matter	
	11/12/2018	7.43	27.1	375.6	3461	5.4	Stagnant, pooled water, clear to cloudy	
	6/05/2019	7.57	27.9	240.1	1796	6.9	Clear, low turbidity, organic odour	
	23/10/2019	4.29	25.4	231.9	2233	6.2	Clear, low turbidity, organic odour.	
	17/04/2020	3.33	26.2	164.8	999	7.1	Bro, No Odour, Slight Sheen	
	20/09/2020	5.68	24.8	327.4	1381	6.7	Yellowish Brown, No odour, No sheen	
	20/04/2021	7.79	27	263.4	1112	7.3	Medium turbidity, Dark olive brown, Distinct organic odour, Biosheen Appearance	
	6/10/2021	3.72	27.7	241.3	1558	6.5	Low turbidity, Yellowish Brown, No odour, No sheen	
	12/04/2022	2.48	30.2	289.6	2317	7.9	Medium turbidity, Yellowish brown, Organic Odour, No sheen, Marsh area.	
	14/10/2022	2.88	29.9	289.3	2110	8.9	Low turbidity, Yellow, Organic materials present e.g. grass, sediment, nuts.	
	3/05/2023	5.10	26.5	373.1	1850	6.8	Low turbidity, Light Olive Brown, No odour, No sheen	
	12/10/2023	5.63	27.4	233.7	3907	7.9	Dark olive brown, medium turbidity, slight organic odour, no sheen	
	19/03/2024	6.70	32.2	180.4	3292	8.0	Yellowish brown, no odour, no	
SW111	18/08/2017	5.90	21.43	132	1639	8.1	silty sludge sediment, grey, no odour, organic smell, Low turbidity	
	11/04/2018		26.7	227.1	696	6.4	brown, mod turbidity	
	10/05/2019	1.67	22.6	189.6	1223	7.2	Clear, low turbidity, organic odour	
	17/04/2020	6.55	28.8	183	453.4	6.9	Dark Reddish Brown, No Odour, Biosheen Appearance	
	20/09/2020	1.45	25.9	242.4	1584	6.8	Yellowish Red, Slight Organic Odour, Biosheen Appearance	
	20/04/2021	7.33	27.8	230.7	1095	7.3	Low turbidity, Dark olive brown, No odour, Biosheen Appearance	
	6/10/2021	3.77	25.4	232.7	1912	7.0	Low turbidity, Yellowish Brown, Compost, No sheen	
	12/04/2022	4.81	29.9	299.8	1043	7.7	Medium turbidity, Pale yellow, No odour, No sheen, Biological material floating in water.	
	14/10/2022	3.05	33.4	299.1	1566	8.5	Low turbidity, Yellow, Still flow, organic material, wetland.	
	12/10/2023	1.45	30.8	104.2	4717	7.3	Dark olive brown, turbid turbidity, slight organic odour, no sheen	
19/03/2024	6.28	32.6	258.9	1768	7.1	Yellowish brown, slight organic odour, no		
SW120	17/07/2017	1.11	24.1	280.9	3216	8.0	Cl, brown, low turbidity	
	20/04/2018	1.04	28	171.9	3601	7.4		
	12/12/2018	2.49	27.8	372.5	456.6	7.3	clear, organic matter, litter, no odour	
	24/10/2019	9.83	27.6	350.6	2593	7.9	Clear, low turbidity, organic odour.	
	5/05/2020	5.59	27.7	257.1	2852	7.7	Very Dark Greenish Grey, No Odour, No Sheen	
	8/09/2020	1.73	23.5	117.6	3126	6.7	Light Olive Brown, Rotten egg smell (sulfurous), Biosheen Appearance	
	15/04/2021	9.53	31.8	252.2	3371	8.1	Low turbidity, Pale yellow, No odour, No sheen	
	6/10/2021	7.36	32.2	161.2	3509	7.7	Clear, Pale yellow, No odour, No sheen	
	11/04/2022	3.75	30.1	264	3638	7.5	Low turbidity, Pale yellow, No odour, No sheen, Still, 1 m wide earthen creek.	
	7/10/2022	13.18	27.8	368.4	2631	8.7	Low turbidity, - Significant algae present in water body.	
3/05/2023	4.36	29.5	244.2	2963	7.2	Clear turbidity, Light Olive Brown, No odour, No sheen		
October 2023		Location DRY						
20/03/2024	0.81	29	218.9	1527	7.3	Clear, no odour, no		

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
SW127	17/07/2017	3.74	20.9	304.1	2297	7.7	Cl, brown, low turbidity	
	20/04/2018		22.6	253.2	3729	8.2		
	11/12/2018	2.00	28.8	326.5	204.3	7.1	Clear/brown, low turbidity, no odour	
	7/05/2019	2.81	23.1	270.1	1656	8.0	Clear, low turbidity, organic odour	
	24/10/2019	6.43	23.2	361.3	3026	8.1	Clear, low turbidity, organic odour.	
	16/04/2020	1.98	26.5	154.9	1225	7.3	Brown, No Odour, Slight Sheen	
	24/09/2020	6.42	24	281.4	1750	7.4	Pale yellow, No odour, No sheen	
	27/12/2020	2.18	28.2	334.4	609	6.9	Pale yellow, No odour, No sheen.	
	28/12/2020	3.42	27	329.2	127	6.8	Brown, No odour, No sheen.	
	29/12/2020	3.01	27.4	293.8	94.3	6.5	Yellowish Brown, No odour, No sheen.	
	30/12/2020	4.00	26.7	371.7	96.2	6.2	Brown, No odour, No sheen.	
	31/12/2020	4.79	25.6	343.8	306.6	6.0	Yellowish Brown, No odour, No sheen.	
	9/02/2021	3.80	28.2	340.9	152.6	6.8	Light olive brown, No odour, No sheen.	
	10/02/2021	3.20	29.1	310.3	320.2	7.0	Light olive brown, No odour, No sheen.	
	11/02/2021	7.65	26.8	277.9	147.1	7.8	Pale yellow, No odour, No sheen.	
	12/02/2021	2.89	28.4	291	283.9	6.9	Pale yellow, No odour, No sheen.	
	13/02/2021	1.63	27.9	252.7	537	7.0	Pale yellow, Slight Organic Odour, No sheen.	
	22/04/2021	5.20	24	308.5	177.9	7.0	Low turbidity, Pale yellow, No odour, No sheen	
	6/10/2021	4.36	27.8	164.5	1164	7.4	Clear, Pale yellow, No odour, No sheen	
	26/01/2022	3.73	26.1	374	119.7	7.3	Clear, No odour, No sheen.	
	27/01/2022	4.98	27.3	339.3	164.3	6.9	Clear, No odour, No sheen, Flowing, high water level	
	28/01/2022	7.41	27.2	328.2	117.9	7.2	Clear, No odour, No sheen.	
	29/01/2022	2.58	29.5	334.9	328.9	6.7	Pale yellow, No odour, No sheen.	
	30/01/2022	3.21	27.5	390.2	508.0	6.5	Brown, No odour, No sheen.	
	11/04/2022	2.78	27.8	285.3	795	7.8	Low turbidity, Pale yellow, No odour, No sheen, 3 m wide concrete culvert, still water.	
	7/10/2022	1.63	23.6	342.3	1559	8.6	Low turbidity, Clear, Still water	
	17/04/2023	6.23	27.6	404.3	418.5	6.6	Low turbidity, No odour, No sheen	
	18/04/2023	2.66	26.4	286.8	684	6.6	Clear turbidity, No odour, No sheen	
	19/04/2023	2.38	27.8	204.4	2209	6.4	Clear turbidity, No odour, No sheen	
	20/04/2023	4.12	25.2	184.2	3442	6.4	Low turbidity, Light Olive Brown, No odour, Biosheen appearance	
	21/04/2023	1.73	24.7	97.8	4075	6.7	Low turbidity, Light Olive Brown, No odour, Biosheen appearance	
	9/10/2023	1.66	25.9	229.1	1212	7.1	Brown, low turbidity, no odour, no sheen	
11/01/2024	4.28	27.2	367	166.4	6.9	Light olive brown, no odour, no sheen		
12/01/2024	3.15	27.4	411	224.3	6.3	Light olive brown, no odour, no sheen		
13/01/2024	3.78	28.8	322.2	305.9	6.5	Pale yellow, no odour, no sheen		
14/01/2024	6.10	26.9	305.4	77.9	6.6	Clear, no odour, no sheen		
15/01/2024	5.79	27.1	330	177.4	6.6	Yellow brown, no odour, no sheen		
11/03/2024	1.53	28.7	223.3	788	7.2	Clear, no odour, no		
SW129	17/07/2017	9.78	24.3	307.7	11657	8.0	Cl, brown, low turbidity	
	20/04/2018	5.48	28.2	209.7	936	7.9		
	16/04/2020	7.71	31.2	204.1	22270	7.6	Yellow, No Odour, No Sheen	
	24/09/2020	5.74	26.3	313.2	34273	7.2	Light Olive Brown, No odour, No sheen	
	27/12/2020	4.72	27.9	393.4	11208	7.4	Light Olive Brown, No odour, No sheen.	
	28/12/2020	5.13	28.1	385	9225	7.6	Brown, No odour, No sheen.	
	29/12/2020	5.74	27.2	308.2	641	6.2	Pale Yellow, No odour, No sheen.	
	30/12/2020	6.27	27.1	346.5	438.7	6.5	Brown, No odour, No sheen.	
	31/12/2020	5.87	26.9	341.2	469.8	6.1	Yellowish Brown, No odour, No sheen.	
	9/02/2021	7.40	28.3	344.6	141.9	7.1	Light olive brown, No odour, No sheen.	
	10/02/2021	5.97	30.3	291.7	192.1	7.4	Yellowish brown, No odour, No sheen.	
	11/02/2021	6.07	27.9	329.6	993	7.2	Brown, No odour, No sheen. Road Tek workers on other side of the road.	
	12/02/2021	6.98	27.5	284.3	309.4	7.4	Pale yellow, No odour, Biosheen Appearance.	
	13/02/2021	6.98	27.5	292.1	246.8	7.7	Yellowish brown, No odour, No sheen.	
	20/04/2021	8.15	26.5	268.4	1360	8.2	Low turbidity, Pale yellow, No odour, No sheen	
	6/10/2021	4.76	29.6	273.4	42065	7.6	Low turbidity, - No odour, No sheen	
	26/01/2022	6.61	26.7	356.7	325.2	7.2	Brown, No odour, No sheen, Strong flow	
	27/01/2022	6.03	26.8	324.9	75.2	6.8	Brown, No odour, No sheen, Fast flowing, high water level.	
	28/01/2022	6.61	26.6	310.2	139.4	7.1	Light olive brown, No odour, No sheen.	
	29/01/2022	6.21	28.9	327.4	194.4	6.9	Yellow, No odour, No sheen, Weak flow	
	30/01/2022	6.45	27.1	344.4	418.3	7.0	Brown, No odour, No sheen.	
	11/04/2022	7.12	32.9	318.2	19077	7.6	Low turbidity, Pale yellow, No odour, No sheen, Bohle River, slow flowing 10 m wide.	
	7/10/2022	3.72	25.4	382.3	28217	7.6	Low turbidity, Brown, Still water	
	18/04/2023	6.40	26.3	256.9	695	7.4	Medium turbidity, Light Olive Brown, No odour, No sheen	
	19/04/2023	5.54	27	264.9	1297	6.9	Low turbidity, Light Olive Brown, No odour, No sheen	
	20/04/2023	5.41	26.2	276.8	2369	6.9	Low turbidity, Light Olive Brown, No odour, No sheen	
	21/04/2023	5.29	25.5	246.8	1232	7.0	Low turbidity, Light Olive Brown, No odour, No sheen	
	22/04/2023	5.69	25.2	383.9	989	6.7	Clear turbidity, No odour, No sheen	
	9/10/2023	4.80	27	392.9	25663	7.4	Brown, low turbidity, no odour, no sheen	
	11/01/2024	5.69	28.7	335.8	1478	7.1	Light olive brown, no odour, no sheen	
	12/01/2024	5.46	27.8	399.8	3234	6.7	Light olive brown, no odour, no sheen	
	13/01/2024	4.98	29.1	325.3	1596	6.9	Brown, no odour, no sheen	
14/01/2024	6.43	26.8	281.2	2027	6.2	Light olive brown, no odour, no sheen		
15/01/2024	6.40	27.3	314.3	309.6	6.7	Yellow brown, sulfurous odour, no sheen		
11/03/2024	4.59	28.8	238.1	6197	7.1	Brown yr, no odour, no		
SW201	17/07/2017	9.72	25.22	206.4	1940	8.7	Clear, low turbidity, no odour	
	20/04/2018	4.82	27.2	202.5	735	7.0	clear	
	20/04/2018	4.82	27.2	202.5	735	7.0	clear	
	12/12/2018	6.70	28.9	355.8	310.2	7.3	Brown, high turbidity, no odour	
	23/10/2019	5.55	26.2	365.3	11197	7.7	Clear, no turbidity, no odour.	
	16/04/2020	7.42	29.8	171.4	5657	7.6	Yellow, No Odour, No Sheen	
	6/10/2021	4.51	30.5	263.3	35621	7.7	Clear, Pale yellow, No odour, No sheen	
	11/04/2022	7.54	30.8	304.7	5170	8.0	Low turbidity, Pale yellow, No odour, No sheen, 10 m wide slow flowing river.	
	14/10/2022	5.37	28.4	329.4	9095	6.9	Clear turbidity, Clear, Medium flow, algae on rocks under water, fish.	
	3/05/2023	10.58	28.7	266.6	1527	7.9	Low turbidity, Light Olive Brown, No odour, No sheen	
	9/10/2023	4.24	29.5	332.5	12035	7.7	Pale, clear turbidity, no odour, no sheen	
	19/03/2024	6.96	31.7	199.9	2400	8.1	Clear, no odour, no	
	SW202	15/07/2017	7.60	23.01	251	38763	8.0	Clear, low turbidity, no odour
		18/04/2018	5.25	28.5	234.4	32002	6.4	
		5/12/2018	5.29	31.8	601.4	56481	7.6	Clear, low turbidity, salty odour
23/10/2019		4.69	27.6	325	47316	7.6	Clear, low turbidity, no odour.	
5/05/2020		5.34	26.8	262	38806	7.5	Light Olive Brown, No Odour, No Sheen	
7/09/2020		5.89	25.7	151.4	55287	7.3	Light Olive Brown, No odour, No sheen	
15/04/2021		8.49	29.3	357	21765	7.4	Low turbidity, Olive yellow, No odour, No sheen	
28/09/2021		-	-	-	-	-	Field observation data lost for this location during data migration.	
4/05/2022		7.60	25	397.6	7751	6.6	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Approx 1.8 m deep, Bohle River, approx. 20m	
18/10/2022		3.30	28.9	343.7	43232	7.2	Low turbidity, Light Brown, salty odour, Slight flow, Mangroves along river bed.	
11/04/2023		6.70	33.3	364.9	23485	7.3	Low turbidity, Light Olive Brown, No odour, No sheen	
6/10/2023		3.74	27.8	296.1	45850	7.4	Brown, low turbidity, organic odour,	
15/03/2024		8.66	30.9	401.9	14096	7.5	Yellowish brown, no odour, no	
SW203		14/07/2017	8.14	24.11	249	46196	8.3	Clear, low turbidity, no odour
		18/04/2018	5.14	28.6	233.9	48692	6.2	
	5/12/2018	5.56	30.4	585	56236	7.9	Clear, low turbidity, salty odour	
	23/10/2019	4.76	26.8	361.5	48735	7.9	Clear, no turbidity, no odour.	
	5/05/2020	5.56	26.6	301.9	53934	7.9	Green, No Odour, No Sheen	
	8/09/2020	6.46	25	114.4	60213	7.7	Light Olive Brown, No odour, No sheen	
	15/04/2021	6.98	30.7	291.4	40530	7.8	Clear, Olive yellow, No odour, No sheen	
	28/09/2021	6.11	27.4	307.9	64227	7.9	Low turbidity, Light Olive Brown, No odour, No sheen	
	4/05/2022	6.29	26.8	322.7	30789	7.4	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River approx. 30 m wide	
	18/10/2022	2.81	28.3	316.8	47815	8.4	Low turbidity, Light Brown, Slight flow, Mangroves along river bed.	
	11/04/2023	6.49	32.3	309.1	38835	7.7	Low turbidity, Light Olive Brown, No odour, No sheen	
	6/10/2023	4.42	28.4	283.1	54647	7.6	Light olive brown, low turbidity, no odour, no sheen	
	15/03/2024	7.10	31.8	286.1	31720	7.9	Yellowish brown, no odour, no	
	SW204	14/07/2017	7.74	22.55	276.8	44380	8.3	Clear, low turbidity, no odour
		18/04/2018	5.12	28.2	272.6	51542	6.3	
5/12/2018		5.77	30.6	586.7	56192	7.9	Clear, low turbidity, salty odour	
23/10/2019		5.14	26.5	360.7	49685	8.0	Clear, no turbidity, no odour.	
5/05/2020		5.83	26.1	295.3	55747	7.9	Light Olive Brown, No Odour, No Sheen	
8/09/2020		6.75	25.4	111	59903	7.5	Light Olive Brown, No odour, No sheen	
15/04/2021		7.23	28.9	284	41333	7.9	Low turbidity, Olive yellow, No odour, No sheen	
28/09/2021		6.21	25.7	291.7	63278	8.0	Clear, Light Olive Brown, No odour, No sheen	
5/05/2022		6.25	28.4	306.7	35786	8.5	Clear turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River mouth approx. 40-50 m wide	
18/10/2022		3.39	27.8	312.7	48253	8.6	Low turbidity, Light Brown, Slight flow, Mangroves along river bed, mouth opens to ocean.	
11/04/2023		6.33	32	274.4	50466	7.8	Low turbidity, Light Olive Brown, No odour, No sheen	
6/10/2023		4.44	27.9	295.9	56301	7.7	Brown, low turbidity, no odour, no sheen	
15/03/2024		6.69	32.1	303.4	36538	7.9	Yellowish brown, no odour, no	
SW205		15/07/2017	3.06	22.08	248.6	25411	7.6	Clear brown, low turbidity, no odour
		18/04/2018	3.78	27.4	257.2	15143	6.3	
	5/12/2018	4.07	31.2	653.8	51775	6.6	Clear, low turbidity, salty odour	
	23/10/2019	2.67	26.2	341.8	22843	7.4	clear, no odour no turbidity.	
	5/05/2020	2.89	28	260.5	19085	7.3	Dark Olive Brown, No Odour, No Sheen	
	8/09/2020	4.08	26.8	112.5	16257	7.1	Light Olive Brown, No odour, No sheen	
	15/04/2021	5.01	31.5	283.6	8280	7.2	Clear, Olive yellow, No odour, No sheen	
	28/09/2021	4.40	29.1	370.6	16390	7.5	Low turbidity, Light Olive Brown, No odour, No sheen	
	4/05/2022	3.77	25.6	334.5	2754	7.0	Clear turbidity, Pale yellow, Slight Organic Odour, No sheen, approx. 1.8 m deep, Bohle River, approx. 10-15 m wide.	
	18/10/2022	1.73	27.8	314.4	28115	7.8	Low turbidity, Light Brown, salty odour, Slight flow, Mangroves along river bed.	
11/04/2023	4.17	31.5	303	4860	7.2	Low turbidity, Light Olive Brown, No odour, No sheen		
6/10/2023	2.56	27.5	275.2	12536	7.1	Could not access point. sample taken 50m downstream		
15/03/2024	3.86	30.5	322	2444	7.1	Yellowish brown, no odour, no		

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
SW206	15/07/2017	6.81	23.49	252.4	39965	7.8	Clear, low turbidity, no odour	
	18/04/2018	5.22	28.5	264.7	38640	6.4		
	5/12/2018	5.08	31.2	605.1	56710	7.6	Clear, low turbidity, salty odour	
	23/10/2019	4.23	26.9	353.7	42921	7.6	Clear, no turbidity, no odour.	
	5/05/2020	4.61	28	283.2	42269	7.5	Light Olive Brown, No Odour, No Sheen	
	23/09/2020	5.81	26.6	116.4	56383	7.3	Light Olive Brown, No odour, No sheen	
	15/04/2021	7.58	30.1	291.3	9686	7.6	Low turbidity, Olive yellow, No odour, No sheen	
	28/09/2021	5.82	26.7	355.5	54386	7.6	Low turbidity, Light Olive Brown, No odour, No sheen	
	4/05/2022	4.89	29.4	310.5	9229	7.0	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River approx. 20 m wide	
	18/10/2022	2.40	28.2	317.6	39595	8.0	Clear turbidity, Clear, Slight flow, Mangroves along river bed.	
	11/04/2023	5.90	32.3	313.7	13287	7.3	Low turbidity, Light Olive Brown, No odour, No sheen	
	6/10/2023	3.41	27.1	301.5	33962	7.2	Brown, low turbidity, no odour, no sheen	
	15/03/2024	5.15	30.8	360.3	9670	7.2	Yellowish brown, no odour, no	
	SW207	15/07/2017	7.07	22.68	257.1	41065	7.8	Clear, low-moderate turbidity, no odour
		5/12/2018	5.10	31.5	604.2	55583	7.5	Clear, low turbidity, salty odour
23/10/2019		3.58	25	362.8	45828	7.6	Clear, low turbidity, no odour.	
5/05/2020		4.26	27.1	308.7	48117	7.4	Light Olive Brown, No Odour, No Sheen	
8/09/2020		6.38	24	164.5	54155	7.4	Light Olive Brown, No odour, No sheen	
15/04/2021		7.03	28.1	284	250	7.0	Low turbidity, Olive yellow, No odour, No sheen	
28/09/2021		4.52	26.9	317	61852	7.5	Low turbidity, Light Olive Brown, No odour, No sheen	
4/05/2022		5.85	28	322.5	16789	7.2	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River, approx. 15-20 m wide	
18/10/2022		2.54	27.3	319.3	43211	8.2	Low turbidity, Light Brown, Slight flow, Mangroves along river bed.	
11/04/2023		6.76	32.5	313.9	30170	7.5	Low turbidity, Light Olive Brown, No odour, No sheen	
6/10/2023		3.77	26.2	209.5	43397	7.1	Brown, low turbidity, no odour, no sheen	
15/03/2024		6.25	32.1	309.5	22253	7.5	Yellowish brown, no odour, no	
Off-Base - Mundy Creek Catchment								
SW108		17/07/2017	9.91	34.2	300.7	10933	8.7	Cl, brown, low turbidity
		10/04/2018	7.23	32.7	237.6	19049	8.5	brown, low turbidity, organic matter
	6/12/2018	2.02	31.5	666.3	33062	4.9	Parameters collected from pole sampler scoop as the surface water was too shallow to take in-situ parameters. Clear, low turbidity, no odour	
	6/05/2019	14.28	27	79.4	42824	8.7	Clear, low turbidity, organic odour	
	24/10/2019	0.63	30	316.3	188227	6.3	Brown, moderate turbidity, organic odour.	
	15/04/2020	8.35	31.7	174.3	76855	8.4	Light Brown, No Odour, No Sheen	
	21/09/2020	7.84	33.1	294.5	85315	8.3	Light Olive Brown, No odour, No sheen	
	27/12/2020	10.30	30.9	353.2	22376	8.2	Brown, No odour, No sheen.	
	28/12/2020	8.67	34.2	340.4	17060	7.6	Yellowish Brown, No odour, No sheen.	
	29/12/2020	5.61	28.4	387.3	8763	6.4	Brown, No odour, Biosheen Appearance, Council quad bike drove through creek spraying pellets for mosquito control	
	30/12/2020	4.95	33.9	319.9	1841	6.5	Yellow, No odour, No sheen. Pellets for mosquito control sprayed 29-12-20	
	31/12/2020	2.69	30	327.2	938	9.4	Dark Reddish Brown, No odour, No sheen. Pellets for mosquito control sprayed 29-12-20	
	9/02/2021	6.17	32.9	274.2	7649	8.8	Yellowish brown, No odour, No sheen.	
	10/02/2021	4.21	28.2	331.7	6338	7.6	Dark reddish brown. Weak compost odour, No sheen.	
	11/02/2021	4.99	27.9	300.7	5522	7.6	Dark reddish brown, No odour, No sheen.	
	12/02/2021	8.33	29	332.5	3749	7.7	Dark reddish brown, No odour, No sheen.	
	13/02/2021	3.21	26.9	348.7	1855	7.2	Yellowish brown, No odour, No sheen.	
	20/04/2021	11.81	28.7	333.8	12696	8.4	Low turbidity, Pale yellow, No odour, No sheen	
	6/10/2021	6.88	34.3	349.1	178290	7.7	Clear, Pale yellow, No odour, No sheen	
	26/01/2022	6.79	27.2	328.9	537.0	7.0	Brown, No odour, No sheen.	
	27/01/2022	4.19	29.5	316.3	803.0	6.7	Brown, No odour, No sheen.	
	28/01/2022	4.72	30.0	330.2	1580.0	6.9	Light olive brown, No odour, No sheen.	
	29/01/2022	4.13	32.9	295.8	1829.0	6.7	Pale yellow, No odour, No sheen, No flow	
	30/01/2022	3.98	35.7	294.9	4431.0	6.9	Brown, No odour, No sheen.	
	12/04/2022	6.95	34.5	281.4	100,174	9.1	Medium turbidity, Pale yellow, No odour, No sheen, Still water body, over 10 m wide	
	14/10/2022	5.73	33.5	315.1	-	9.1	Low turbidity, Light Yellow, Slight flow, human barefoot foot tracks into water body. Mangroves along river bed.	
	18/04/2023	6.32	28.3	284.4	16335	7.4	Medium turbidity, Light Olive Brown, No odour, No sheen	
	19/04/2023	10.01	30.6	246.8	13541	8.4	Clear turbidity, No odour, No sheen	
	20/04/2023	10.21	32.3	264.2	10931	8.3	Low turbidity, Light Olive Brown, No odour, No sheen	
	21/04/2023	9.02	30.6	250.3	6285	8.2	Low turbidity, Light Olive Brown, No odour, No sheen	
	22/04/2023	8.76	31.4	234.6	6166	7.8	Clear turbidity, No odour, No sheen	
	12/10/2023	5.56	32.3	269.5	99475	8.7	Light olive brown, low turbidity, slight organic odour, no sheen	
	11/01/2024	6.92	29	314	4570	7.0	Light olive brown, no odour, no sheen	
	12/01/2024	7.63	31.4	302	31752	7.4	Light olive brown, no odour, no sheen	
	13/01/2024	8.99	35.7	276.5	36671	7.6	Pale yellow, no odour, no sheen	
	14/01/2024	-	32.5	244.8	11980	7.9	Yellow brown, no odour, no sheen	
	15/01/2024	4.16	31.7	255.2	3539	6.6	Light olive brown, no odour, no sheen	
	19/03/2024	7.87	33.1	273	12567	8.6	Yellowish brown, organic odour, no	
	SW109	17/07/2017	5.55	25.9	1137.9	47024	8.0	Cl, brown, low turbidity
		10/04/2018	4.18	29.6	253.6	36951	7.8	light brown, turbid
		3/12/2018	5.72	35.9	194	57266	8.0	WQM didn't record Redox. Clear, low turbidity, salty
		6/05/2019	4.17	24.5	217.6	41402	7.2	Clear, low turbidity, salty odour
		22/10/2019	2.95	29	359.3	49793	7.9	Clear, low turbidity, no odour.
		15/04/2020	7.50	30.1	192.7	51108	7.9	Light Brown, No Odour, No Sheen
		21/09/2020	6.67	27.2	314	58981	8.0	Other, No odour, No sheen
27/12/2020		6.05	28.1	416.7	14365	6.5	Pale Yellow, No odour, No sheen.	
28/12/2020		5.86	30.6	292.9	2668	6.8	Brown, No odour, No sheen.	
29/12/2020		5.74	26	386.6	3400	6.2	Brown, No odour, No sheen.	
30/12/2020		6.04	30.6	324.5	3008	6.6	Light Olive Brown, No odour, No sheen.	
31/12/2020		5.63	29.1	345.6	1938	6.5	Light Olive Brown, No odour, No sheen.	
9/02/2021		5.72	30.8	294.8	4157	8.2	Light olive brown, No odour, No sheen. Outgoing (low) tide	
10/02/2021		5.79	29.2	356.3	49429	8.0	Light olive brown, No odour, No sheen. Incoming (high) tide	
11/02/2021		6.37	28.3	332	49888	8.0	Yellowish brown, No odour, No sheen. Outgoing tide	
12/02/2021		7.29	27.6	346.1	7006	7.3	Light olive brown, No odour, No sheen. Outgoing tide	
13/02/2021		5.82	26.5	390.8	23494	7.3	Yellowish brown, No odour, No sheen. Incoming tide	
20/04/2021		6.66	26.9	307.5	1931	7.5	Low turbidity, Pale yellow, No odour, No sheen	
6/10/2021		6.16	30.8	230.7	60863	7.9	Low turbidity, Pale yellow, No odour, No sheen	
26/01/2022		6.42	27.4	314.3	942.0	6.8	Brown, No odour, No sheen.	
27/01/2022		6.09	28.9	325.9	914.0	6.8	Brown, No odour, No sheen, Tide flowing out	
28/01/2022		6.34	28.6	313.6	1601.0	7.0	Light olive brown, No odour, No sheen.	
29/01/2022		6.35	31.6	300.3	2871.0	7.0	Pale yellow, No odour, No sheen, Slow flowing, low tide	
30/01/2022		6.19	33.7	311.8	10904.0	7.1	Brown, No odour, Biosheen appearance, Biosheen, tide flowing out	
12/04/2022		5.26	30	288	53110	8.1	Low turbidity, Pale yellow, No odour, No sheen, Low tide in channel	
7/10/2022		5.88	28.9	352.3	48158	8.6	Low turbidity, Clear, Still water	
18/04/2023		5.47	27.3	294	43090	7.3	Low turbidity, No odour, No sheen	
19/04/2023		6.95	29.1	266.1	27263	7.4	Clear turbidity, No odour, No sheen	
20/04/2023		7.00	28.4	284.2	20180	7.4	Low turbidity, No odour, No sheen	
21/04/2023		7.34	27.8	278.1	19019	7.6	Low turbidity, Light Olive Brown, No odour, No sheen	
22/04/2023		6.56	27	263.9	34772	7.5	Low turbidity, Light Olive Brown, No odour, No sheen	
12/10/2023		4.16	25.8	238.5	50680	7.8	Light olive brown, low turbidity, organic odour, no sheen	
11/01/2024		6.13	27.9	330.6	2382	6.9	Light olive brown, no odour, no sheen	
12/01/2024		6.79	29.1	287.9	18966	7.3	Light olive brown, no odour, no sheen	
13/01/2024		6.41	29.9	274.9	37063	7.5	Pale yellow, no odour, no sheen	
14/01/2024		6.22	28.9	285.7	44766	7.7	Light olive brown, no odour, no sheen	
15/01/2024		5.64	28.6	281.4	8429	6.8	Yellow brown, no odour, no sheen	
20/03/2024		4.40	30.3	252.1	25208	7.9	Clear, no odour, no	
SW113		16/08/2017	3.43	20.8	223.7	8020	7.4	-
		10/04/2018	-	27.6	255	1390	6.9	no surface water (dry), only a sediment sample collected
		16/04/2020	1.49	25.6	240	4951	7.3	Dark Reddish Brown, Organic Odour, No Sheen
		6/05/2021	5.80	27.9	135	3539	7.3	Low turbidity, Olive yellow, Distinct sulfurous odour, Biosheen Appearance
		6/10/2021	10.36	31	212.7	9603	8.2	Low turbidity, Yellow, No odour, No sheen
		12/04/2022	4.61	28.1	259.6	2123	8.9	Low turbidity, Yellow, No odour, No sheen, 3 m wide still water creek
		7/10/2022	6.40	28.7	353.8	5953	8.7	Low turbidity, Pale Yellow, Still water
	3/05/2023	4.90	27.7	209.2	3447	7.2	Clear turbidity, Light Olive Brown, Slight organic odour, No sheen	
	9/10/2023	3.43	31.5	672.2	14742	2.8	Brown, medium turbidity, no odour, no sheen	
	11/03/2024	2.68	27.2	228.8	2996	6.9	Clear, no odour, no	
	SW114	17/07/2017	4.46	22.7	319.5	4841	7.6	Cl, brown, low turbidity
		10/04/2018	4.05	29.4	282.1	1915	6.9	brown, low tide, low turbidity
15/04/2020		11.47	34.1	168.2	1717	8.5	No Odour, No Sheen	
21/09/2020		6.74	32.8	298.7	61854	7.6	Brown, Rotten egg smell (sulfurous), No sheen	
22/04/2021		5.57	25.1	316.4	4365	6.9	Low turbidity, Pale yellow, No odour, No sheen	
6/10/2021		8.12	34.6	244.1	52656	7.9	Low turbidity, Pale yellow, No odour, Biosheen Appearance	
11/04/2022		10.12	30.9	219.5	2931	8.0	Low turbidity, Pale yellow, Organic Odour, No sheen, Stagnant shallow water, overgrown area.	
7/10/2022		1.26	27.9	300.5	14003	7.9	Low turbidity, Pale Yellow, organic odour, Still water	
22/04/2023		4.69	31.3	260.9	25332	6.5	Clear turbidity, Light Olive Brown, No odour, No sheen	
October 2023							Location DRY	
11/03/2024		4.48	30	223.9	1597	7.3	Clear, no odour, no	

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment
SW115	17/07/2017	3.11	23	297.8	2499	8.3	Cl, brown, low turbidity
	10/04/2018	2.21	29.1	191.6	990	7.0	brown, low turbidity
	13/12/2018	1.73	29.1	286.3	1685	7.6	Clear/brown, anoxic odour, organic matter, stagnant water
	24/10/2019	3.07	27.6	353.7	268	7.7	Clear, low turbidity, organic odour.
	15/04/2020	9.63	32.1	190.8	8860	7.8	Brown, No Odour, No Sheen
	21/09/2020	10.61	32.7	297.3	44111	8.1	Organic Odour,
	27/12/2020	4.36	29.4	340.6	2243	6.8	No odour, No sheen.
	28/12/2020	5.53	33	316	1277	6.7	Brown, No odour, No sheen.
	29/12/2020	5.27	26.2	387.3	546	6.1	Brown, No odour, Biosheen.
	30/12/2020	6.01	31.3	296.2	1068	6.4	Brown, No odour, No sheen.
	31/12/2020	5.65	28.3	270.6	650	6.4	Brown, No odour, No sheen.
	9/02/2021	5.12	30.4	373.4	1166	6.9	Light olive brown, No odour, No sheen.
	10/02/2021	5.21	27.4	387	21506	7.2	Light olive brown, No odour, No sheen.
	11/02/2021	5.45	26.9	336.6	4505	7.1	Yellowish brown, No odour, No sheen.
	12/02/2021	6.86	27.7	338.9	3117	7.3	Brown, No odour, No sheen.
	13/02/2021	5.39	25.9	338.7	2769	7.1	Yellowish brown, Slight Organic Odour, No sheen.
	16/04/2021	6.96	26.5	334.9	3000	7.3	Low turbidity, Pale brown, No odour, No sheen
	6/10/2021	8.43	35.1	221	57592	7.7	Low turbidity, Pale yellow , No odour, No sheen
	26/01/2022	6.39	27.7	356.5	233.3	6.8	Brown, No odour, No sheen,
	27/01/2022	5.23	29.4	334.7	196.7	7.4	Brown, No odour, No sheen,
	28/01/2022	6.14	29.5	328.6	635.0	7.0	Light olive brown, No odour, No sheen,
	29/01/2022	6.46	33.0	288.1	1617.0	7.0	Yellow, No odour, No sheen, Weak flow
	30/01/2022	6.96	32.9	304.5	2557.0	7.2	Brown, No odour, No sheen,
	12/04/2022	6.05	31.6	291.8	33079	8.4	Medium turbidity, Pale yellow, No odour, No sheen, 4m wide earthen channel under bridge
	7/10/2022	4.60	31.5	374.9	40214	8.2	Low turbidity, Brown, Still water
	18/04/2023	4.65	27.4	327.4	32750	6.8	Clear turbidity, No odour, No sheen
	19/04/2023	6.02	28.6	258.3	12245	6.9	Clear turbidity, Light Olive Brown, No odour, No sheen
	20/04/2023	6.96	29.4	275.8	10675	7.0	Low turbidity, No odour, No sheen
	21/04/2023	7.77	30.6	249.8	9579	7.3	Low turbidity, Light Olive Brown, No odour, No sheen
	22/04/2023	7.66	28	244.5	12252	7.2	Low turbidity, No odour, No sheen
	3/10/2023	5.65	30.8	375.4	5315	7.4	Brown, medium turbidity, no odour, no sheen
	11/01/2024	5.76	28.7	312.2	533	7.1	Light olive brown, no odour, no sheen
12/01/2024	-	29.5	292.8	1317	7.4	Light olive brown, no odour, no sheen	
13/01/2024	6.47	32.4	268.1	2242	7.1	Pale yellow, no odour, no sheen	
14/01/2024	5.33	29.2	301.4	2444	6.6	Light olive brown, no odour, no sheen	
15/01/2024	5.40	29.5	266.8	1222	7.0	Light olive brown, no odour, no sheen	
11/03/2024	5.55	29.8	234.6	7472	7.4	Pale yellow, no odour, no	
SW116	17/07/2017	3.06	22.7	336.1	25015	7.2	Cl, brown, low turbidity
	10/04/2018	-	28.5	271.5	10678	7.1	brown, low tide, low turbidity
	12/12/2018	3.04	30.1	361.5	1270	7.4	Brown, low turbidity, no odour
	24/10/2019	2.72	25.1	266.5	26688	7.1	Clear, low turbidity, no odour.
	15/04/2020	6.83	30.4	207.2	33839	7.6	Brown, No Odour, No Sheen
	21/09/2020	5.68	28.3	312.2	26321	7.3	Light Olive Brown, No odour, No sheen
	27/12/2020	4.93	28.5	360.6	2374	6.6	Brown, Slight Organic Odour, No sheen.
	28/12/2020	5.68	32.8	297.6	1322	6.6	Brown, No odour, No sheen.
	29/12/2020	5.81	25.9	311.9	597	6.2	Brown, No odour, No sheen.
	30/12/2020	5.92	30.5	315.3	885	6.5	Light Olive Brown, No odour, No sheen.
	31/12/2020	6.11	28.5	325.1	535	6.5	Light Olive Brown, No odour, No sheen.
	9/02/2021	5.34	30.5	331.8	1180	7.3	Light olive brown, No odour, No sheen.
	10/02/2021	5.65	28.6	367.8	41585	7.9	Light olive brown, No odour, No sheen.
	11/02/2021	6.51	27.4	339.4	16770	7.6	Yellowish brown, No odour, Biosheen Appearance.
	12/02/2021	6.94	27.8	311.5	3528	7.2	Yellow, No odour, No sheen.
	13/02/2021	5.17	26.4	333.2	2051	7.1	Yellowish brown, No odour, Biosheen Appearance.
	20/04/2021	6.87	26.2	304.9	1104	7.7	Low turbidity, Yellowish brown , No odour, No sheen
	6/10/2021	5.72	31.5	240.7	61018	7.7	Medium turbidity, Pale yellow , No odour, Biosheen Appearance
	26/01/2022	6.45	27.5	340.2	265.6	6.8	Light olive brown, No odour, No sheen, Strong flow
	27/01/2022	5.44	29.0	319.5	302.7	6.8	Brown, No odour, No sheen,
	28/01/2022	5.88	28.5	375	822.0	6.7	Light olive brown, No odour, No sheen, Very strong flow
	29/01/2022	5.69	31.4	293.4	1636.0	6.9	Yellowish brown, No odour, No sheen, Weak flow
	30/01/2022	5.81	33.0	309.1	3497.0	7.1	Brown, No odour, No sheen,
	12/04/2022	4.21	29.7	301.7	48331	8.2	Low turbidity, Pale yellow, No odour, No sheen, Still 3 m wide concrete culvert near bridge
	14/10/2022	1.83	25.8	321.9	39708	7.7	Low turbidity, Clear, Still flow, stagnant, organic-like sheen.
	18/04/2023	5.00	27.4	313.3	39399	7.1	Clear turbidity, No odour, No sheen
	19/04/2023	6.00	30.5	252.7	23579	7.0	Clear turbidity, No odour, No sheen
	20/04/2023	6.45	29.4	283.5	16560	7.0	Low turbidity, Light Olive Brown, No odour, No sheen
	21/04/2023	6.66	28.6	273.7	16078	7.1	Low turbidity, Light Olive Brown, Organic odour, No sheen
	22/04/2023	5.06	26.8	253.9	25587	7.0	Clear turbidity, Olive Yellow, No odour, No sheen
	12/10/2023	3.89	27.4	213.9	46030	7.6	Light olive brown, low turbidity, slight organic odour, no sheen
	11/01/2024	5.67	28.2	297.4	800	7.0	Light olive brown, no odour, no sheen
12/01/2024	6.24	28.5	291.8	1844	7.1	Light olive brown, no odour, no sheen	
13/01/2024	6.05	30.7	297	21693	6.9	Yellow brown, no odour, no sheen	
14/01/2024	5.50	28.7	299	17322	6.8	Yellow brown, no odour, no sheen	
15/01/2024	4.72	28.6	269.6	1530	6.7	Light olive brown, no odour, no sheen	
11/03/2024	4.33	29.5	234.3	13723	7.2	Clear, no odour, no	
SW117	17/07/2017	2.89	23	356.7	2109	7.9	Cl, brown, low turbidity
	16/04/2018	1.70	29.5	640.5	3958	7.6	Low turbidity, clear, algae
	13/12/2018	1.25	29.2	292.1	1212	6.4	Clear, organic matter, low turbidity, no odour
	24/10/2019	3.05	25.3	339.1	2039	6.8	Clear, low turbidity, organic odour.
	16/04/2020	6.39	28.2	228	2425	7.5	Brown, No Odour, No Sheen
	21/09/2020	3.44	27.6	277.6	1880		Brown, No odour, No sheen
	27/12/2020	4.23	28.6	401.4	1360	8.3	Yellow, No odour, No sheen.
	28/12/2020	9.40	33.5	333.5	755	9.4	Brown, No odour, No sheen.
	29/12/2020	8.27	27.1	374.4	642	6.8	Dark Olive Brown, No odour, Biosheen.
	30/12/2020	8.27	30	285.5	176.9	7.7	Brown, No odour, Sheen,
	31/12/2020	12.66	29.7	281.9	645	8.9	Yellowish Brown, No odour, No sheen. Dead rat in waterway
	9/02/2021	9.94	32.3	309.2	1182	8.9	Yellowish brown, No odour, No sheen.
	10/02/2021	6.43	26.4	379.9	694	7.5	Light olive brown, No odour, Biosheen Appearance.
	11/02/2021	8.33	26.7	255.5	1435	8.1	Yellow, No odour, Biosheen Appearance.
	12/02/2021	10.98	29	245.7	515	9.2	Pale yellow, No odour, No sheen.
	13/02/2021	3.04	25.3	393.3	1328	7.4	Pale yellow, Weak sulfurous odour, No sheen.
	16/04/2021	3.25	25.6	364.4	1675	7.3	Clear, Yellowish brown , Distinct sulfurous odour, No sheen
	7/10/2021	1.38	25.9	362.3	2128	7.2	Low turbidity, Pale yellow , No odour, No sheen
	26/01/2022	7.23	27.3	354.9	62.6	7.1	Brown, No odour, No sheen,
	27/01/2022	7.98	30.2	333.8	509.0	7.8	Brown, No odour, No sheen,
	28/01/2022	7.24	28.8	365.2	143.0	7.3	Olive yellow, No odour, No sheen,
	29/01/2022	9.86	32.0	244.3	1129.0	9.0	Pale yellow, No odour, Sheen,
	30/01/2022	3.50	29.7	289.5	1552.0	7.3	Brown, No odour, No sheen, Lots of debris on surface of water
	11/04/2022	2.34	29.4	294.6	1769	8.3	Low turbidity, Pale yellow, Sulfurous odour, No sheen, Slightly sulfurous odour, 1 m wide earthen culvert, overgrown, stagnant water.
	7/10/2022	0.85	24.4	351.2	2123	8.8	Low turbidity, Clear, organic odour, Still water
	18/04/2023	3.59	25.7	401.3	485.7	6.6	Clear turbidity, No odour, No sheen
	19/04/2023	8.77	30.5	202.3	2588	8.7	Clear turbidity, No odour, No sheen
	20/04/2023	8.51	30.7	246.5	3074	8.4	Clear turbidity, No odour, No sheen
	21/04/2023	8.69	30.9	203.2	3600	8.7	Clear turbidity, Light Olive Brown, No odour, No sheen
	22/04/2023	8.59	26.2	201.1	3490	8.2	Low turbidity, Light Olive Brown, No odour, No sheen
	9/10/2023	1.29	27.7	164.1	1709	7.4	Brown, low turbidity, organic odour, no sheen
	11/01/2024	7.92	28.8	288.8	356.1	7.4	Light olive brown, no odour, no sheen
12/01/2024	8.66	29.7	243	1507	9.0	Clear, no odour, no sheen	
13/01/2024	4.63	31.8	193.5	1856	8.1	Pale yellow, no odour, no sheen	
14/01/2024	7.89	29.2	268.1	386.5	7.5	Yellow brown, no odour, no sheen	
15/01/2024	10.20	31.7	208.3	589	8.7	Yellow brown, no odour, no sheen	
11/03/2024	6.13	33	241.4	5637	7.6	Clear, no odour, no	

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment
SW118	17/07/2017	1.56	19.7	333.9	2039	7.7	Cl, brown, low turbidity
	10/04/2018	0.00	28.3	245.1	1291	6.8	
	13/12/2018	5.41	31.2	308.4	3532	7.3	Brown, low turbidity, no odour
	24/10/2019	3.76	27	270.2	261.1	7.2	Clear, no turbidity, no odour.
	16/04/2020	2.76	25.5	271.7	19411	7.2	Brown, No Odour, No Sheen
	21/09/2020	10.16	32.6	277.8	6992	8.7	, No odour, No sheen
	27/12/2020	6.20	29.5	329.9	2039	7.4	Brown, Organic Odour, No sheen.
	28/12/2020	6.22	32.8	347.1	1027	8.0	Brown, No odour, No sheen.
	29/12/2020	5.31	26.3	382.5	354.4	6.5	Brown, No odour, No sheen.
	30/12/2020	6.76	30.5	335.7	589	7.1	Light Olive Brown, No odour, No sheen.
	31/12/2020	5.87	28.6	302.2	437.3	6.8	Brown, No odour, No sheen.
	9/02/2021	4.98	30.8	166.7	302.6	10.4	Light olive brown, No odour, No sheen.
	10/02/2021	4.15	26.7	385.7	1747	6.8	Light olive brown, No odour, No sheen.
	11/02/2021	6.37	26.6	322.2	4538	7.2	Yellow, No odour, No sheen.
	12/02/2021	7.68	27.6	293	566	8.2	Pale yellow, No odour, No sheen.
	13/02/2021	4.56	25.3	384.4	1552	7.3	Yellowish brown, No odour, No sheen.
	16/04/2021	3.48	25.4	329.2	3458	6.9	Medium turbidity, Pale brown, Distinct sulfurous odour, No sheen
	7/10/2021	4.02	27.2	380.4	28809	7.1	Low turbidity, Pale yellow, No odour, No sheen
	26/01/2022	6.56	27.4	358.4	84.4	7.0	Brown, No odour, No sheen,
	27/01/2022	4.04	27.8	343.2	331.2	6.8	Brown, No odour, No sheen,
	28/01/2022	5.65	28.6	370.1	200.6	7.1	Light olive brown, No odour, No sheen,
	29/01/2022	4.92	30.7	305.8	1014.0	7.4	Pale yellow, No odour, No sheen, No flow
	30/01/2022	6.89	30.7	305.7	2078.0	7.3	Yellow, No odour, No sheen,
	11/04/2022	11.42	31.7	301.6	4112	8.3	Low turbidity, Pale yellow, No odour, No sheen, Stagnant, 3 m wide earthen creek.
	7/10/2022	4.39	28.0	375.2	22979	8.2	Low turbidity, Brown, Still water
	18/04/2023	3.85	25.7	371.5	3118	6.4	Clear turbidity, No odour, No sheen
	19/04/2023	3.68	29.3	251.6	3753	6.8	Clear turbidity, No odour, No sheen
	20/04/2023	4.73	28.4	271.6	4092	7.0	Clear turbidity, No odour, No sheen
	21/04/2023	5.45	29.5	226.2	4941	7.2	Low turbidity, Light Olive Brown, Slight organic odour, No sheen
	22/04/2023	4.14	26.2	212.8	5309	7.2	Turbid, Dark Brown, No odour, No sheen
	9/10/2023	4.71	31.4	299.2	1721	7.0	Brown, low turbidity, organic odour, no sheen
	11/01/2024	6.56	28.4	304.6	468.2	7.3	Olive yellow, no odour, no sheen
12/01/2024	4.30	28.1	272.6	1122	7.6	Clear, no odour, no sheen	
13/01/2024	5.31	31.7	237.7	1993	7.3	Pale yellow, no odour, no sheen	
14/01/2024	6.54	29.2	264.6	382.1	7.4	Clear, no odour, no sheen	
15/01/2024	6.00	29.1	229.6	372.3	7.7	Light olive brown, no odour, no sheen	
11/03/2024	3.51	29.3	266.4	4180	7.3	Clear, no odour, no	
SW119	20/04/2018	-	23.8	250.5	3820	8.4	
	13/12/2018	8.10	33.6	273.5	1242	9.8	Clear, low turbidity, no odour, bubbles
	24/10/2019	7.12	23	259.2	1453	6.9	Clear, moderate turbidity, no odour, organic matter.
	16/04/2020	16.02	28.7	235	1753	9.1	No Odour, No Sheen
	23/09/2020	13.44	29.6	332	2264	8.4	Yellowish Brown, No odour, No sheen
	22/04/2021	4.99	25.3	303.2	144.3	7.9	Medium turbidity, Yellow, No odour, No sheen
	6/10/2021	9.91	31.2	195.4	2401	9.4	Low turbidity, Pale yellow, No odour, No sheen
	11/04/2022	13.16	34.4	196.7	2676	10.1	Low turbidity, Pale yellow, No odour, No sheen, 3 m concrete culvert, stagnant water with biologicals
	7/10/2022	13.12	31.1	348.4	3706	9.4	Low turbidity, Pale Yellow, Stormwater drain water.
	22/04/2023	-	-	-	-	-	
	9/10/2023	9.84	31.7	216.8	1837	9.8	Light olive brown, low turbidity, organic odour, -
	11/03/2024	7.41	30.3	220.5	2036	9.4	Clear, no odour, no
SW208	17/07/2017	5.80	25.47	235.6	44175	8.2	Clear, low turbidity, no odour
	10/04/2018	-	31.8	299.8	23890	7.5	
	12/12/2018	3.28	31.7	340.4	4485	7.5	Brown, moderate turbidity, no odour
	24/10/2019	5.72	27.4	337.8	43822	7.2	Clear, moderate turbidity, organic odour.
	23/09/2020	10.14	31.4	278.4	86126	7.8	Dark Olive Brown, No odour, Biosheen Appearance
	20/04/2021	7.05	26.3	289.1	1406	7.8	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	7.29	32.2	225	62391	7.9	Medium turbidity, Pale yellow, No odour, No sheen
	12/04/2022	4.74	29.6	317.7	50545	8.3	Medium turbidity, Pale yellow, No odour, No sheen, Mangroves present
	14/10/2022	2.92	27.8	319.5	56549	8.2	Medium turbidity, Light Brown, sheen, Slight flow, biosheen. Mangroves along river bed.
	22/04/2023	5.72	31.2	203.7	35183	6.9	Low turbidity, Light Olive Brown, No odour, No sheen
	12/10/2023	1.76	27.2	120.7	59074	6.7	Light olive brown, medium turbidity, organic odour, no sheen
	20/03/2024	5.57	33.8	209.5	24119	7.5	Yellowish brown, no odour, no
SW209	17/07/2017	8.21	24.92	230.9	47870	7.9	Clear, low turbidity, no odour
	25/04/2020	10.15	28.6	187.8	62870	8.6	Pale Yellow, Rotten egg smell (sulfurous), No Sheen
	21/09/2020	6.58	27.8	301.2	60727	8.0	Light Olive Brown, No odour, No sheen
	13/04/2022	4.37	32.5	287.4	93427	7.8	Medium turbidity, Yellow, No odour, No sheen, Large > 5 m wide still water body
	7/10/2022	5.98	34.3	378.1	-	8.0	Low turbidity, Brown, Still water
	11/10/2023	6.53	32	252.7	101948	8.1	Light olive brown, low turbidity, no odour, no sheen
	March 2024						Flooded tracks, unable to access sampling point
Off-Base - Three Mile Creek Catchment							
SW107	17/07/2017	5.40	27.4	309.9	30980	7.4	Cl, brown, low turbidity
	20/04/2018	0.14	23.6	118.4	14688	6.5	
	6/05/2019	1.26	24.6	180.3	15341	7.7	Red/brown, low turbidity, organic odour
	15/04/2020	2.75	29.1	112.3	264.5	7.5	Dark Reddish Brown, Rotten egg smell (sulfurous), No Sheen
	20/04/2021	7.43	26.6	270.7	4294	7.3	Medium turbidity, Yellowish brown, No odour, Biosheen Appearance
	12/04/2022	6.09	34.6	305.4	34028	8.2	Medium turbidity, Yellow, No odour, No sheen, Very yellow water, still marsh
	14/10/2022						Dry. Not sampled.
	3/05/2023	8.14	27.6	180.5	3878	7.8	Low turbidity, Light Olive Brown, Rotten egg smell (sulfurous) odour, No sheen
	12/10/2023	7.18	33.5	268.1	128971	7.8	Dark olive brown, turbid turbidity, organic odour, sheen
	20/03/2024	9.15	35.9	228.3	5343	9.0	Clear, no odour, no
SW210	17/07/2017	4.72	23.33	237.6	45995	7.7	Clear, low turbidity, no odour
	10/04/2018	0.10	28.3	228.1	39366	7.7	
	4/12/2018	3.48	33.1	610.4	58644	6.8	Clear, low turbidity, mangrove/organic odour
	6/05/2019	3.99	25.7	386.7	52666	7.6	Clear, low turbidity, organic odour
	22/10/2019	2.82	27.7	311.5	51023	7.4	Clear, low turbidity, organic odour.
	15/04/2020	3.78	26.8	200.9	55374	7.4	Brown, No Odour, No Sheen
	20/09/2020	5.74	27	325.3	59120	7.8	Other, No odour, No sheen
	16/04/2021	6.12	30.1	344.6	21253	7.3	Low turbidity, Pale brown, Brackish odour, No sheen
	6/10/2021	5.15	29.9	249.1	61246	7.6	Low turbidity, Olive Yellow, No odour, No sheen
	12/04/2022	2.88	30.4	318.1	32941	7.5	Medium turbidity, Light olive brown, No odour, No sheen, Moderately fast flowing > 3 m wide.
	14/10/2022	3.27	27.2	324.4	55739	8.2	Low turbidity, Clear, Medium flow, possible crab net downstream. Mangroves along river bed.
	22/04/2023	5.19	29.1	239.1	16186	7.3	Low turbidity, Light Olive Brown, No odour, No sheen
	12/10/2023	2.88	25.1	356.1	52717	7.7	Light olive brown, low turbidity, slight organic odour, no sheen
	19/03/2024	5.64	32.2	137.1	63190	7.6	Clear, no odour, no

DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Redox Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre

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

Table T5: Historical Surface Water PFAS Analytical Results

			0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348					
			4.2 FTS	6.2 FTS	8.2 FTS	10.2 FTS	EFOSA	EFOSAA	EFOSB	FOSA	MnFOSA	MnFOSAA	MnFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHXA	PFHXS	PFHPA	PFHPS	PFHXA	PFHXS	PFHXA	PFHPS	PFHXA	PFHXS	PFHXA	PFHXS	PFHXA	PFHXS	Sum of PFOS and PFHXS	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	µg/L	µg/L	µg/L	µg/L	
LOA			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Location ID	Location	Sample Date																																			
On-Base - Bohle River/Louisa Creek/Town Common Catchment																																					
SW013	On-Base	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.91	0.2	<0.02	<0.02	<0.02	0.24	0.31	2.85	13.9	0.82	1.98	<0.05	<0.02	<0.02	<0.02	0.9	0.4	14.8	24.5					
	On-Base	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.11	0.25	0.98	3.44	0.19	0.43	<0.05	<0.02	<0.02	<0.02	5.86	0.19	9.5	12.2					
	On-Base	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.152	<0.020	<0.0200	<0.0200	<0.0200	0.028	0.068	0.232	0.994	0.06	0.122	<0.0500	<0.0200	<0.0200	<0.0200	1.67	0.062	2.66	3.39					
	On-Base	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0026	<0.001	<0.0005	<0.001	0.247	0.065	0.001	0.009	<0.0005	0.0805	0.108	0.641	1.94	0.104	0.244	<0.0005	<0.0005	<0.0005	0.0026	2.91	0.142	4.85	6.5						
	On-Base	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	0.02	<0.02	<0.02	0.18	0.27	0.03	0.16	0.13	<0.02	<0.05	<0.02	<0.02	0.2	<0.01	0.36	0.57					
	On-Base	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.86	<0.3	<0.02	<0.02	<0.02	0.18	0.27	2.28	6.52	0.38	0.82	<0.06	<0.02	<0.02	<0.02	3.11	0.32	9.63	14.7					
	On-Base	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.19	0.47	0.05	0.08	<0.05	<0.02	<0.02	<0.02	0.19	0.03	0.66	1.19					
	On-Base	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.07	<0.02	0.14	0.14					
	On-Base	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.2	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.31	0.49					
	On-Base	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.01	0.23	0.35						
SW014	On-Base	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.02	0.03	0.04	<0.02	<0.05	<0.02	<0.02	0.07	<0.01	0.12	0.12						
	On-Base	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	0.006	0.0007	<0.0005	<0.0005	0.0038	0.0019	0.0102	0.034	0.0089	0.0041	<0.0005	<0.0005	<0.0005	0.0006	0.031	0.0069	0.065	0.131						
	On-Base	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	0.002	<0.0005	0.0097	<0.0005	0.0085	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
	On-Base	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0123	<0.002	0.0009	<0.0005	<0.0005	0.0078	<0.0005	0.0043	0.0091	0.0054	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.0087	0.0033	0.0178	0.0527						
	On-Base	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.016	<0.002	0.0008	<0.0005	<0.0005	0.0043	0.0027	0.0079	0.0436	0.0057	0.0073	<0.0005	<0.0005	<0.0005	0.0013	0.0547	0.0055	0.0983	0.15						
	On-Base	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0478	<0.002	0.0016	<0.0005	<0.0005	0.0118	0.0103	0.0366	0.157	0.0218	0.0203	<0.0005	<0.0005	<0.0005	0.0021	0.13	0.0131	0.287	0.452						
	On-Base	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.03	0.04	<0.02	<0.05	<0.02	<0.02	0.05	0.01	0.08	0.18						
	On-Base	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.05	0.05						
	On-Base	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.05	0.05						
	On-Base	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	<0.01	0.02	0.02						
	On-Base	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01					
	On-Base	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01					
	On-Base	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.09					
	On-Base	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01					
	On-Base	10/02/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01					
	On-Base	11/02/2021	<0.05	0.73	0.4	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.21	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	0.14	0.02	1.5						
	On-Base	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01					
	On-Base	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02																												

Table T5: Historical Surface Water PFAS Analytical Results

			0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348					
			4.4 FTS	8.8 FTS	8.8 FTS	16.2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MiFOSA	MiFOSAA	MiFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHXA	PFHXS	PFHPA	PFHPS	PFHXA	PFHXS	PFHXA	PFHPS	PFHXA	PFHXS	PFHXA	PFHPS	PFHXA	PFHXS	Sum of PFOS and PFHXS	Sum of PFAS	
Units	Location	Sample Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOF			0.05																																		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																					
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																					
Location ID	Location	Sample Date																																			
SW112	On-Base	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.04	0.1	0.22					
	On-Base	19/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.0311	<0.002	0.0034	<0.0005	<0.0005	0.0093	0.0063	0.0558	0.136	0.0376	0.0146	<0.0005	<0.0005	<0.0005	0.0014	0.166	0.0384	0.302	0.504					
	On-Base	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	0.0061	<0.0005	0.0595	<0.0005	0.036	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.166	0.0384	0.302	0.504		
	On-Base	20/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0007	<0.001	<0.0005	<0.001	0.0459	<0.002	0.0041	<0.0005	<0.0005	0.0082	0.0093	0.0664	0.111	0.0431	0.0115	<0.0005	<0.0005	<0.0005	0.0018	0.283	0.0297	0.394	0.621					
	On-Base	3/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0316	<0.002	0.0014	<0.0005	<0.0005	0.0045	0.0044	0.0153	0.0574	0.0193	0.0089	<0.0005	<0.0005	<0.0005	0.0007	0.102	0.0151	0.159	0.263					
	On-Base	25/10/2019	<0.001	0.019	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	0.0009	<0.0005	<0.0005	0.0055	0.0048	0.0314	0.0275	0.0361	0.0032	<0.0005	<0.0005	<0.0005	<0.0005	0.0479	0.0115	0.0754	0.185					
	On-Base	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.01	0.16	0.17		
	On-Base	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.14		
	On-Base	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04		
	On-Base	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.08			
	On-Base	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	0.06	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	0.01	0.12	0.21			
	On-Base	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.1	0.01	0.09	0.16				
	On-Base	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.1	0.01	0.08	0.15					
	On-Base	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.02	0.19	0.29				
	On-Base	10/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.07	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.18	0.27					
	On-Base	11/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.03	0.19	0.28					
	On-Base	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.02	0.19	0.26					
	On-Base	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	0.1	0.02	0.22	0.32					
	On-Base	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.24	0.34					
	On-Base	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.07	0.09				
	On-Base	26/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.01	0.12	0.16				
	On-Base	27/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.01	0.19	0.23					
	On-Base	28/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
	On-Base	29/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.16	0.02	0.28	0.36				
	On-Base	30/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.10	<0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.02	0.23	0.29				
	On-Base	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.09	0.11					
	On-Base	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.1	0.1					
	On-Base	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.02	0.24	0.43				
	On-Base	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<																		

Table T5: Historical Surface Water PFAS Analytical Results

			0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348							
			4.4 FTS	8.8 FTS	8.8 FTS	10.2 FTS	PFOSA	PFOSAA	PFOSAE	PFOSA	MnFOSA	MnFOSAA	MnFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHKA	PFHKS	PFHPA	PFHPS	PFHKA	PFHKS	PFHKA	PFHKS	PFHKA	PFHKS	PFHKA	PFHKS	PFHKA	PFHKS	PFHKA	PFHKS	Sum of PFOS and PFHKS	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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																							
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																							
Location ID	Location	Sample Date																																					
On-Base	14/08/2017		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	0.03	14.3	0.64	25.3	34.1							
On-Base	1/03/2018		<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.122	0.012	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	1.57	0.0652	2.44	3.03							
On-Base	2/03/2018		<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.397	0.036	<0.0020	<0.0020	<0.0020	0.0562	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.152	6.38	8.25							
On-Base	2/03/2018		<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.143	0.02	<0.0020	<0.0020	<0.0020	0.041	0.079	0.341	1.54	0.0764	0.142	<0.0050	<0.0020	<0.0020	0.0028	3.17	0.107	4.71	5.67							
On-Base	3/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.489	0.148	<0.0100	<0.0100	<0.0100	0.109	0.346	1.21	2.87	0.254	0.409	<0.0250	<0.0100	<0.0100	<0.0100	7.02	0.307	9.89	13.2							
On-Base	3/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.012	<0.025	<0.0100	<0.025	0.544	0.22	<0.0100	<0.0100	<0.0100	0.137	0.376	1.41	3.54	0.269	0.463	<0.0250	<0.0100	<0.0100	<0.0100	7.33	0.345	10.9	14.6							
On-Base	4/03/2018		<0.020	<0.020	0.024	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.72	0.35	<0.0200	<0.0200	<0.0200	0.466	1.24	3.82	15.5	0.74	1.91	<0.0500	<0.0200	<0.0200	<0.0200	19.9	1.04	35.4	47.7							
On-Base	4/03/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.78	0.198	<0.0200	<0.0200	<0.0200	0.506	1.34	3.99	16.5	0.806	1.86	<0.0500	<0.0200	<0.0200	<0.0200	20.3	0.984	36.8	49.3							
On-Base	5/03/2018		<0.010	<0.010	0.027	<0.010	<0.025	<0.0100	<0.025	0.038	<0.025	<0.0100	<0.025	2.2	1.12	<0.0100	<0.0100	<0.0100	0.513	1.33	5.26	16.7	1.17	2.09	<0.0250	<0.0100	<0.0100	0.021	20.4	1.28	37.1	52.1							
On-Base	5/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.025	<0.025	<0.0100	<0.025	6.33	1.53	<0.0100	<0.0100	0.851	2.51	7.35	23.4	3.18	5.06	<0.0250	<0.0100	<0.0100	0.039	20.5	2.71	43.9	73.5								
On-Base	18/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.53	0.8	<0.02	<0.02	<0.02	0.48	1.09	4.28	16.6	1.01	2.66	<0.05	<0.02	<0.02	0.03	18.7	1.06	35.6	57.4							
On-Base	18/04/2018		-	-	-	-	-	-	-	<0.10	-	-	-	2.96	1.8	-	-	-	1.58	1.6	14.5	16.9	3.79	2.67	-	-	-	0.11	25.9	1.47	42.5	65.1							
On-Base	18/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.88	0.8	<0.02	<0.02	<0.02	0.34	<0.02	3.93	<0.02	0.99	0.06	<0.05	<0.02	<0.02	<0.02	<0.01	0.32	<0.01	7.32							
On-Base	17/12/2018		<0.002	<0.002	0.007	<0.002	<0.005	<0.0020	<0.005	0.006	<0.005	<0.0020	<0.005	0.891	0.114	<0.0020	0.0028	<0.0020	0.118	0.348	1.28	4.95	0.353	0.545	<0.0050	<0.0020	<0.0020	0.006	3.97	0.271	8.92	12.9							
On-Base	1/05/2019		<0.001	0.012	0.034	<0.001	<0.001	<0.0005	<0.001	0.0219	<0.001	<0.0005	<0.001	2.97	0.113	0.0075	0.0109	<0.0005	0.32	1.16	4.9	16.3	0.803	2.18	<0.0005	<0.0005	0.0006	0.0296	17.2	1.01	18.8	32.4							
On-Base	18/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	1.49	0.6	<0.02	<0.02	<0.02	0.36	0.87	3.46	11.5	0.8	1.37	<0.05	<0.02	<0.02	0.04	24.7	0.88	36.2	46.1							
On-Base	29/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	0.1	<0.02	<0.02	<0.02	0.02	0.04	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.78	0.01	0.96	1.15								
On-Base	30/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	0.01	0.12	0.65	0.04	0.06	<0.05	<0.02	<0.02	<0.02	3.06	0.05	3.71	4.15							
On-Base	31/01/2020		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.17	<0.2	<0.05	<0.05	<0.05	0.21	0.28	1.88	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	4.44	0.12	6.32	7.28								
On-Base	29/04/2020		<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	1.86	0.7	<0.02	0.03	<0.02	0.39	0.92	3.91	9.33	1.1	1.74	<0.05	<0.02	<0.02	0.03	12.6	0.66	21.9	33.4							
On-Base	10/09/2020		<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	0.5	<0.2	<0.04	<0.04	<0.04	0.14	0.42	1.22	3.99	0.33	0.44	<0.11	<0.04	<0.04	<0.04	4.28	0.15	6.47	8.42							
On-Base	27/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.04	0.11	0.41	1.29	0.08	0.17	<0.05	<0.02	<0.02	<0.02	3.76	0.07	5.05	6.11							
On-Base	28/12/2020		<0.05	<0.05	0.06	<0.05	<0.13	<0.05	<0.13	0.2	<0.13	<0.05	<0.13	0.21	<0.2	<0.05	0.59	<0.05	0.06	0.23	0.51	2.01	0.11	0.24	<0.13	<0.05	<0.05	<0.05	18.1	0.12	20.1	22.4							
On-Base	29/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.07	0.13	0.57	0.04	0.06	<0.05	<0.02	<0.02	<0.02	3.06	0.03	3.63	4.02							
On-Base	30/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.11	0.2	0.76	<0.07	0.09	<0.05	<0.02	<0.02	<0.02	3.28	0.04	4.04	4.59								
On-Base	31/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.03	<0.02	0.02	0.09	0.19	0.68	0.05	0.09	<0.05	<0.02	<0.02	<0.02	3.21	0.05	3.89	4.48							
On-Base	9/02/2021		<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.35	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.71	2.19	0.19	0.3	<0.09	<0.04	<0.04	<0.04	4.28	0.15	6.47	8.42							
On-Base	10/02/2021		<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.39	0.2	<0.04	<0.04	<0.04	0.08	0.19	0.76	2.39	0.23	0.4	<0.09	<0.04	<0.04	<0.04	3.67	0.16	6.06	8.47							
On-Base	11/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	&																											

Table T5: Historical Surface Water PFAS Analytical Results

			0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348					
		Units	4:4 FTS	6:4 FTS	8:4 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSBE	FOSA	MnFOSA	MnFOSAA	MnFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHXA	PFHXS	PFHPA	PFHPS	PFHXA	PFHXS	PFHXA	PFHPS	PFHXA	PFHXS	PFHXA	PFHXS	PFHXA	PFHXS	Sum of PFOS and PFHXS	Sum of PFAS	
		LOF	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																					
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																					
Location ID	Location	Sample Date																																			
SW125	On-Base	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.1	<0.02	<0.02	<0.02	0.12	0.11	1.08	3.14	0.2	0.52	<0.05	<0.02	<0.02	<0.02	2.07	0.18	5.21	7.78					
	On-Base	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.1	<0.02	<0.02	<0.02	0.11	0.19	1.09	3.62	0.19	0.39	<0.05	<0.02	<0.02	<0.02	3.07	0.17	6.69	9.3					
	On-Base	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.96	0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.96	<0.02	0.18	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.03	<0.01	0.01	<0.01	1.4			
	On-Base	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0378	<0.002	<0.0020	<0.0020	<0.0020	0.0066	0.0198	0.0732	0.326	0.0168	0.0262	<0.0050	<0.0020	<0.0020	<0.0020	0.565	0.0198	0.891	1.09					
	On-Base	1/05/2019	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0076	<0.001	<0.0005	<0.001	1.02	0.051	0.0019	0.0027	<0.0005	0.246	0.56	3.43	9.73	0.548	1.07	<0.0005	<0.0005	<0.0005	0.0125	9.98	0.594	19.7	27.3					
	On-Base	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.16	0.4	<0.02	<0.02	<0.02	0.28	0.34	3.38	9.34	0.71	0.83	<0.05	<0.02	<0.02	<0.02	5.09	0.42	14.4	22					
	On-Base	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.08	0.33	0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.6	0.02	0.93	1.13					
	On-Base	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.03	<0.2	<0.05	<0.05	<0.05	<0.05	0.29	0.29	0.29	0.29	<0.05	<0.02	<0.02	<0.02	0.59	<0.05	0.88	0.88					
	On-Base	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.32	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.77	0.02	1.09	1.32						
	On-Base	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.48	0.3	<0.02	<0.02	<0.02	0.14	0.24	1.6	4.96	0.26	0.72	<0.05	<0.02	<0.02	<0.02	4.61	<0.01	9.57	13.5					
	On-Base	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.68	<0.2	<0.05	<0.05	<0.05	0.14	0.2	1.49	3.8	0.32	0.4	<0.12	<0.05	<0.05	<0.05	6.74	0.26	10.5	14					
	On-Base	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.06	<0.7	<0.02	<0.02	<0.02	0.08	0.08	2.25	2.36	0.52	0.59	<0.05	<0.02	<0.02	<0.02	1.04	0.06	3.4	8.04					
	On-Base	28/12/2020	<0.25	<0.25	<0.25	<0.25	<0.63	<0.25	<0.63	<0.25	<0.63	<0.25	<0.63	16.4	<2.5	<0.02	<0.02	<0.02	1.9	1.95	31.9	64.7	3.8	15.3	<0.63	<0.25	<0.25	<0.25	47.5	1.39	112	185					
	On-Base	29/12/2020	<0.19	<0.19	<0.19	<0.19	<0.48	<0.19	<0.48	<0.19	<0.48	<0.19	<0.48	16.4	5.1	<0.19	<0.19	<0.19	3.86	6.07	40.4	115	7.15	16.4	<0.48	<0.19	<0.19	<0.19	132	5.14	247	348					
	On-Base	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.3	<0.02	<0.02	<0.02	0.05	0.21	0.64	2.33	0.25	0.3	<0.05	<0.02	<0.02	<0.02	3.64	0.08	11.9	13.8					
	On-Base	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	1.25	0.6	<0.02	<0.02	<0.02	0.27	0.68	3.23	8.5	0.76	1.25	<0.05	<0.02	<0.02	<0.02	19.4	0.49	28.9	37.4					
	On-Base	9/02/2021	<0.08	<0.08	<0.08	<0.08	<0.19	<0.08	<0.19	<0.08	<0.19	<0.08	<0.19	3.39	0.9	<0.08	<0.08	<0.08	0.66	1.14	8.59	23.7	1.48	3.32	<0.19	<0.08	<0.08	<0.08	24	1.01	47.7	68.2					
	On-Base	10/02/2021	<0.08	<0.08	<0.08	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	0.94	0.4	<0.08	<0.08	<0.08	0.18	0.43	2.2	6.53	0.96	<0.2	<0.08	<0.08	<0.08	14.9	0.3	21.4	27.4						
	On-Base	11/02/2021	<0.05	<0.11	<0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.22	0.9	<0.02	<0.02	<0.02	0.3	1.12	3.79	12.6	0.95	1.87	<0.05	<0.02	<0.02	<0.02	40.4	0.5	53	64.6					
	On-Base	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.46	0.7	<0.02	<0.02	<0.02	0.32	1.07	4.09	8.24	1.11	1.98	<0.05	<0.02	<0.02	<0.02	19.6	0.56	27.8	40.1					
	On-Base	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.44	<0.1	<0.02	<0.02	<0.02	0.07	0.15	0.76	2.63	0.14	0.36	<0.05	<0.02	<0.02	<0.02	3.63	0.11	6.16	8.19					
	On-Base	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.1	<0.02	<0.02	<0.02	0.08	0.16	1.21	2.56	0.22	0.43	<0.05	<0.02	<0.02	<0.02	3.78	0.12	6.34	9.06					
	On-Base	26/01/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.98	0.9	<0.1	<0.1	<0.1	0.2	1.07	3.73	9.81	1.13	1.78	<0.25	<0.1	<0.1	<0.1	76.4	0.45	86.2	97.4					
	On-Base	27/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	0.27	0.22	1	0.06	0.14	<0.05	<0.02	<0.02	<0.02	8.75	0.04	9.75	10.6					
	On-Base	28/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.15	0.38	0.06	0.05	<0.05	<0.02	<0.02	<0.02	1.93	0.02	2.31	2.7					
	On-Base	29/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	<0.02	<0.02	<0.02	0.08	0.2	0.96	3.14	0.24	0.39	<0.05	<0.02	<0.02	<0.02	5.16	0.16	8.3	10.9					
	On-Base	30/01/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.78	0.8	<0.02	<0.02	<0.02	0.38	0.85	5.34	13.7	1.12	1.93	<0.06	<0.02	<0.02	<0.02	17.4	0.64	31.1	43.9					
	On-Base	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.67	0.2	<0.02	<0.02	<0.02	0.14	0.12	1.77	4.59	0.32	0.72	<0.06	<0.02	<0.02	<0.02	1.38	0.16	5.97	10.1					
	On-Base	17/04/2023	<0.05	<0.05																																	

Table T5: Historical Surface Water PFAS Analytical Results

		0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348						
		4.4 FTS	8.8 FTS	8.8 FTS	16.2 FTS	EFOSA	EFOSAA	EFOSBE	FOSA	MiFOSA	MiFOSAA	MiFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHXA	PFHXS	PFHPA	PFHPS	PFHXA	PFHXS	PFHXA	PFHPS	PFHXA	PFHXS	PFHXA	PFHXS	PFHXA	PFHXS	Sum of PFAS and PFHXS	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	µg/L	µg/L	µg/L		
		Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units		
		LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF	LOF		
		PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)	PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)					
		PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)	PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)					
Location ID	Location	Sample Date																																			
On-Base - Mundy Creek Catchment																																					
SW001	On-Base	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.11	1	<0.02	<0.02	<0.02	1	2.65	7.26	22.8	1.98	4.69	<0.05	<0.02	<0.02	0.22	59.9	2.96	82.7	108					
	On-Base	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.99	0.9	<0.02	<0.02	<0.02	1.03	1.24	6.17	19.7	1.32	3.68	<0.05	<0.02	<0.02	0.13	48.1	1.78	67.2	86.4					
	On-Base	19/04/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7.02	2.1	<0.02	0.04	<0.02	2.48	2.11	14.3	34.8	2.81	8.44	<0.05	<0.02	<0.02	0.21	50.6	4.66	85.4	128					
	On-Base	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.020	<0.050	<0.020	<0.050	<0.020	<0.050	1.22	0.312	<0.020	<0.020	<0.020	0.584	0.6	3.35	8.83	0.644	1.27	<0.050	<0.020	<0.020	0.078	14.6	1.37	23.4	32.8					
	On-Base	2/05/2019	<0.001	0.011	0.003	<0.001	<0.001	<0.0005	<0.001	0.0065	<0.001	<0.0005	<0.001	1.17	0.13	0.0018	0.044	<0.0005	0.466	0.594	2.54	5.31	0.507	1.63	<0.0005	<0.0005	<0.0005	0.0406	11.5	1.03	16.8	25					
	On-Base	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.3	<0.02	<0.02	<0.02	0.25	0.2	1.6	3.65	0.36	0.53	<0.05	<0.02	<0.02	0.03	5.89	0.44	9.54	13.8					
	On-Base	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.14	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.47	0.02	0.61	0.76						
	On-Base	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	0.2	<0.02	<0.02	<0.02	0.09	0.1	0.58	1.79	0.2	0.26	<0.05	<0.02	<0.02	<0.02	3.22	0.2	5.01	6.93					
	On-Base	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.3	<0.02	<0.02	<0.02	0.08	0.08	0.5	1.39	0.18	0.19	<0.05	<0.02	<0.02	<0.02	2.53	0.15	3.92	5.83					
	On-Base	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.45	3.85	0.22	0.62	<0.05	<0.02	<0.02	<0.02	7.33	0.31	11.2	15.1					
	On-Base	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.29	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.74	2.15	0.11	0.31	<0.09	<0.04	<0.04	<0.04	4.66	0.19	6.81	8.7					
	On-Base	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.11	0.06	0.34	0.81	0.12	0.14	<0.05	<0.02	<0.02	<0.02	1.56	0.14	2.37	3.42					
	On-Base	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.01	0.2	<0.02	<0.02	<0.02	0.32	0.54	2.46	5.44	0.39	1.15	<0.05	<0.02	<0.02	0.05	10.4	0.68	15.8	22.6					
	On-Base	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	1.77	0.5	<0.04	<0.04	<0.04	0.66	0.65	4	10.7	0.79	1.99	<0.1	<0.04	<0.04	0.09	18.7	1.38	28.8	40.6					
	On-Base	20/04/2023	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.77	<0.2	<0.05	<0.05	0.25	0.43	1.62	5.39	0.32	0.79	<0.12	<0.05	<0.05	<0.05	15.9	0.41	21.3	25.9						
On-Base	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.39	<0.2	<0.05	<0.05	0.09	0.2	0.84	3.33	0.19	0.48	<0.12	<0.05	<0.05	<0.05	8.29	0.27	11.6	14.1							
On-Base	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	1.1	<0.02	0.18	<0.02	1.89	2.24	9.73	2.12	1.82	6	<0.05	<0.02	<0.02	0.08	48.5	4.08	69.7	100					
SW010	On-Base	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65						
	On-Base	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66					
	On-Base	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	0.0005	<0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.0012	0.168	0.153	1.68					
	On-Base	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	0.175	<0.002	0.0028	<0.002	<0.002	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.005	<0.002	<0.002	0.0084	0.174	0.0738	0.891	1.7					
	On-Base	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0388	0.169	0.257	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.154	1.73	2.74					
	On-Base	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	1.21	0.05	1.35	1.6						
	On-Base	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5					
	On-Base	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	0.2	<0.02	<0.02	<0.02	0.05	<0.02	0.17	0.21	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.04	1.02	1.65					
	On-Base	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.1	0.19	0.08	0.02	<0.05	<0.02	<0.02	<0.02	0.76	0.04	0.95	1.26					
	On-Base	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	0.2	<0.02	<0.02	<0.02	0.08	<0.02																	

Table T5: Historical Surface Water PFAS Analytical Results

		0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348	
		4.4 FTS	6.2 FTS	8.2 FTS	10.2 FTS	EFOSA	EFOSAA	EFOSAE	FOSA	MnFOSA	MnFOSAA	MnFOSE	PFBS	PFBA	PFDA	PFDS	PFDDAA	PFHPA	PFHPS	PFHKA	PFHKS	PFPPA	PFPPS	PFTEA	PFTEA	PFUNDA	PFNA	PFOS	PFPA	Sum of PFOS and PFHKS	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		
		LOF	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																
Location ID	Location	Sample Date																														
Off-Base - Mundy Creek Catchment																																
Off-Base	17/07/2017		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Off-Base	19/04/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0428	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0058	0.0081	0.052	0.175	0.0117	0.0353	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Off-Base	6/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0108	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0001	0.0016	0.0046	0.038	<0.0005	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Off-Base	6/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0476	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0038	0.0039	0.0587	0.204	<0.0005	0.055	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Off-Base	24/10/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0209	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0005	0.0234	0.0237	<0.0005	0.0059	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Off-Base	15/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base	21/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.2	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	27/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	28/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	29/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	30/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.16	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	31/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	9/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	10/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.16	0.65	<0.03	0.08	<0.05	<0.02	<0.02	<0.02	<0.02
Off-Base	11/02/2021		<0.05	<0.19	<0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.21	0.63	<0.03	0.08	<0.05	<0.02	<0.02	<0.02	<0.02
Off-Base	12/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	0.48	0.03	0.07	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	13/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	0.1	0.55	0.03	0.07	<0.05	<0.02	<0.02	<0.02	<0.02
Off-Base	20/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.38	1.04	0.06	0.16	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	6/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.06	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	26/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	27/01/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	28/01/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	29/01/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	30/01/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	12/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	14/12/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	18/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	19/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.23	<0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Off-Base	20/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.48	1.66	0.07	0.25	<0.05	<0.02	<0.02	<0.02	<0.02
Off-Base	21/04/2023		<0																													

Table T5: Historical Surface Water PFAS Analytical Results

		0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348					
		4.4 FTS	6.4 FTS	8.4 FTS	10.2 FTS	EFOSA	EFOSAA	EFOSBE	FOSA	MFOFA	MFOFAA	MFOFBE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHXA	PFHXS	PFHPA	PFHPS	PFHXA	PFHXS	PFHXA	PFHXS	PFHXA	PFHXS	PFHXA	PFHXS	PFHXA	PFHXS			
		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				
		LOF	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02				
		PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																		
		PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																		
Location ID	Location	Sample Date	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.46	0.3	1.77	4.85	0.4	1.14	<0.05	<0.02	<0.02	0.04	5.21	0.7	10.1	16.1					
Off-Base	18/07/2017		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.55	<0.1	<0.02	<0.02	<0.02	0.32	0.22	1.37	6.14	0.3	0.52	<0.05	<0.02	<0.02	<0.02	7.04	0.5	13.2	17
Off-Base	10/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.0507	<0.002	0.0009	0.0024	<0.0005	0.0332	0.0056	0.0358	0.155	0.0268	0.0188	<0.0005	<0.0005	<0.0005	0.0012	0.234	0.0108	0.359	0.546
Off-Base	13/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005
Off-Base	8/05/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.22	0.4	<0.02	<0.02	<0.02	0.45	0.33	2.91	6.02	0.56	1.22	<0.05	<0.02	<0.02	<0.02	7.46	0.86	13.5	21.4
Off-Base	24/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.34	0.01	0.42	0.46
Off-Base	16/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	0.1	<0.02	<0.02	<0.02	0.09	0.1	0.6	1.51	0.1	0.28	<0.05	<0.02	<0.02	<0.02	3.11	0.2	4.62	6.39
Off-Base	21/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.2	<0.02	<0.02	<0.02	0.06	0.1	0.44	1.28	0.08	0.18	<0.05	<0.02	<0.02	<0.02	2.62	0.13	3.9	5.07
Off-Base	27/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.17	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.34	0.78	0.09	0.14	<0.05	<0.02	<0.02	<0.02	1.45	0.06	2.23	3.13
Off-Base	28/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	0.04	0.03	0.22	0.51	0.09	0.09	<0.05	<0.02	<0.02	<0.02	0.87	0.06	1.38	2.02
Off-Base	29/12/2020		<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.11	0.28	0.04	0.05	<0.05	<0.02	<0.02	<0.02	0.74	0.03	1.02	1.39
Off-Base	30/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.32	0.82	<0.09	0.13	<0.05	<0.02	<0.02	<0.02	1.88	0.09	2.7	3.5
Off-Base	31/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.03	0.17	0.44	0.05	0.07	<0.05	<0.02	<0.02	<0.02	1.12	0.06	1.56	2.05
Off-Base	9/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.11	0.23	0.04	0.04	<0.05	<0.02	<0.02	<0.02	0.63	0.04	0.86	1.16
Off-Base	10/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	0.03	0.04	0.25	0.68	0.05	0.11	<0.05	<0.02	<0.02	<0.02	1.08	0.04	1.76	2.41
Off-Base	11/02/2021		<0.05	<0.11	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.14	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.31	0.83	0.05	0.13	<0.05	<0.02	<0.02	<0.02	1.19	0.08	2.02	2.8
Off-Base	12/02/2021		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.01	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.26	0.59	0.06	0.1	<0.05	<0.02	<0.02	<0.02	1.29	0.1	1.88	2.59
Off-Base	13/02/2021		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.28	0.1	<0.02	<0.02	<0.02	0.12	0.11	0.54	1.67	0.13	0.27	<0.05	<0.02	<0.02	<0.02	2.53	0.22	4.2	5.97
Off-Base	16/04/2021		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.3	0.5	<0.02	<0.05	0.58	0.44	3.12	7.16	1.67	1.3	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	10	1.2	17.2	26.3
Off-Base	7/10/2021		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.49	0.2	<0.02	<0.02	<0.02	0.14	0.19	1.04	2.62	0.18	0.48	<0.05	<0.02	<0.02	<0.02	3.7	0.3	6.32	9.36
Off-Base	29/01/2022		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.39	0.01	0.49	0.58	
Off-Base	27/01/2022		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.10	<0.1	<0.02	<0.02	<0.02	0.09	0.07	0.39	0.96	0.1	0.13	<0.05	<0.02	<0.02	<0.02	2.3	0.19	3.26	4.33
Off-Base	28/01/2022		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	0.02	0.12	0.29	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.62	0.04	0.91	1.17	
Off-Base	29/01/2022		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.19	0.1	<0.02	<0.02	<0.02	0.11	0.09	0.56	1.33	0.14	0.21	<0.05	<0.02	<0.02	<0.02	2.63	0.21	3.96	5.57
Off-Base	30/01/2022		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.30	0.1	<0.02	<0.02	<0.02	0.17	0.15	0.95	2.03	0.18	0.34	<0.05	<0.02	<0.02	<0.02	3.29	0.30	5.32	7.81
Off-Base	11/04/2022																																			

Table T5: Historical Surface Water PFAS Analytical Results

			0	1.13	2.19	0	0	0	0.001	0.2	0	0.0023	0	16.4	5.1	0.13	0.59	0.0007	4.72	6.07	40.4	115	7.15	16.4	0	0	0.004	0.74	176	5.14	247	348				
		Units	4.4 FTS	8.4 FTS	8.4 FTS	10.2 FTS	EFOSA	EFOSAA	EFOSAE	FOSA	MnFOSA	MnFOSAA	MnFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHPA	PFHPS	PFHKA	PFHKS	PFPA	PFPS	PFTDA	PFTDA	PFUNDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHKS	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				
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)			0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01	0.01				
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																				
Location ID	Location	Sample Date																																		
Off-Base - Three Mile Creek Catchment																																				
SW107	Off-Base	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.15	<0.05	<0.12	<0.05	<0.05	<0.05	0.14	<0.05	0.29	0.35				
	Off-Base	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.167	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0084	0.0622	0.489	0.0188	0.0813	<0.0005	<0.0005	<0.0005	<0.0005	0.124	0.0085	0.613	0.983		
	Off-Base	6/05/2019	<0.002	0.004	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0786	<0.002	<0.0020	<0.0020	<0.0020	0.004	0.01	0.0536	0.44	<0.0020	0.0634	<0.0050	<0.0020	<0.0020	<0.0020	0.134	0.008	0.574	0.794		
	Off-Base	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	0.43	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.15	<0.02	0.58	0.88		
	Off-Base	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.3	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.21	0.01	0.51	0.68		
	Off-Base	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.15	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.19	1.33	<0.04	0.16	<0.05	<0.02	<0.02	<0.02	0.4	0.04	1.73	2.3		
	Off-Base	3/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.41	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.07	0.59	2.29	0.09	0.38	<0.05	<0.02	<0.02	<0.02	1.16	0.07	3.45	5.09	
	Off-Base	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	0.51	<0.02	0.09	<0.05	<0.02	<0.02	<0.02	0.13	0.01	0.64	1.01		
	Off-Base	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.17	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.29	1.19	0.06	0.16	<0.05	<0.02	<0.02	<0.02	0.84	0.05	2.03	2.82	
	SW210	Off-Base	17/07/2017	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0085	0.0012	0.0081	0.0383	0.0036	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.0381	0.0028	0.0764	0.108
Off-Base		10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0085	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0005	0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0058	<0.0005	0.0068	0.0075	
Off-Base		4/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0009	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.004	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0059	0.0082		
Off-Base		6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	<0.0005	0.0042	0.0047		
Off-Base		22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	<0.0005	0.0042	0.0047		
Off-Base		15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base		21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base		16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base		6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base		12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
Off-Base	22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Off-Base	19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	

LOR is limit of reporting
µg/L is micrograms per litre
< denotes concentration is less than
NEMP is National Environmental Management Plan
NHMRC is National Health Medical Research Council

Location ID	Sample Date	Sample Description	Odour
On-Base - Bohle River/Louisa Creek/Town Common Catchment			
SD013	29/04/2020	Silty SAND, fine grained, dark brown to black, saturated, highly organic (roots and decaying organic matter)	No odour
	9/09/2020	Sandy CLAY, low plasticity, fine sands, brown, dry, some organics	No odour
	22/04/2021	Silty CLAY, medium plasticity, brown, saturated, high organic content	Decaying organic odour
	7/10/2021	Silty SAND, dry, low to medium plasticity, soft, black, well graded fine sand component, with a trace of clay. With some organics (roots).	No odour
	13/04/2022	Sandy LOAM. Some fine gravels, minor silt, some organic content (plant material). No surface water present at time of sample collection.	No odour
	17/10/2022	Silty CLAY, dark brown, high organic material content, dry.	Earthy odour
	20/04/2023	Silty SAND, loose, black, fine subangular grained, black fine silt, saturated Wetland grass/organic matter present.	Organic
	11/10/2023	CLAY, stiff, light brown with orange mottling, low plasticity, dry.	No odour
20/03/2024	Clayey SAND, loose, light gery, coarse grained, low plasticity, wet.	Slight organic odour	
SD014	28/04/2020	Sandy GRAVEL, fine to coarse gravels, orange/black, saturated, with silt, and some organics (shells, root fibres)	Organic odour
	24/09/2020	Silty GRAVEL, dark brown/black, saturated, highly organic	Organic odour
	22/04/2021	Silty GRAVEL, coarse gravel, dark brown, saturated, low organic content	No odour
	7/10/2021	Gravelly sandy CLAY, saturated, medium to high plasticity, firm, dark grey to black, medium grained sands, medium to coarse sub-angular to angular gravel. With trace of organics and biota (roots, shells).	No odour
	13/04/2022	Sandy SILT. Dark red, minor organic content. Sampled from still, deep water beneath the bridge.	No odour
	7/10/2022	SAND, fine grained, poorly graded, wet.	No odour
	21/04/2023	CLAY, light brown, medium plasticity, firm, subangular gravel, saturated Moss/roots present.	No odour
	11/10/2023	CLAY, soft, dark grey, high plasticity, with coarse subangular gravels, saturated.	No odour
20/03/2024	Silty GRAVEL, loose, dark grey, coarse subangular gravels, dark grey fine silt, wet. Organic matter.	No odour	
SD016	29/04/2020	Silty CLAY, medium plasticity, black, saturated, highly organic	No odour
	7/09/2020	SILT, black, saturated, highly organic	No odour
	22/04/2021	Silty CLAY, low plasticity, grey to brown, saturated, high organic content	Decaying organic odour
	7/10/2021	Silty CLAY, saturated, medium to high plasticity, firm, dark grey, with trace of fine to medium grained sand.	No odour
	13/04/2022	Gravelly SAND. Poorly graded, dark brown, some biota and other plant material. Sampled from still water.	No odour
	17/10/2022	Silty CLAY, dark brown, high plasticity, with organic material.	No odour
	21/04/2023	SILT, loose, black, trace yellow sands, coarse, subangular, saturated Wetland grass present.	Strong Organic
	11/10/2023	CLAY, loose, light brown with grey mottling, low plasticity, dry.	No odour
	17/11/2023*	Silty Clay, brown, medium plasticity, soft, dry.	No odour
20/03/2024	Gravelly CLAY, soft, low plasticity, coarse subangular gravels, saturated.	No odour	
SD019	30/04/2020	Clayey SAND, fine to medium grained, brown and black, wet	No odour
	10/09/2020	CLAY, medium plasticity, brown with grey/orange mottles, moist	No odour
	22/04/2021	Silty SAND, medium grained, loose, pale brown, moist	No odour
	7/10/2021	CLAY, moist, medium to high plasticity, soft, brown to grey with red to brown mottling, with a trace of fine grained sand. With organics (roots).	No odour
	21/04/2022	SAND. Fine grained, black, high organic content (biota, grass and roots). Sampled from very slowly flowing water.	No odour
	17/10/2022	CLAY, high plasticity, light brown, with traces of cobbles and gravels, with organic material (roots), dry.+	No odour
	21/04/2023	CLAY, light grey, medium plasticity, trace coarse sands, saturated Snails present.	No odour
	11/10/2023	Location DRY, redeveloped with cobbles, no water or sediment.	
SD112	29/04/2020	Silty CLAY, low plasticity, grey, saturated, with organic matter (root fibres)	No odour
	9/09/2020	Clayey SAND, fine to medium grained, grey with orange mottles, with organics (decaying organic matter and shells)	No odour
	16/04/2021	Sandy Gravelly SILT, non-plastic, grey, saturated, with medium sands and fine gravels, with some clay inclusions and high organic content (leaves and roots)	No odour
	7/10/2021	Sandy GRAVEL, saturated, medium to coarse, sub-angular to angular gravels, loose, black, coarse sands. With organics and biota (roots, shells).	No odour
	12/04/2022	Sandy SILT. Low plasticity, high organic content (rootlets).	No odour
	7/10/2022	Sandy CLAY, soft, light grey, low plasticity, fine to medium grained sand, well graded, wet.	No odour
	21/04/2023	CLAY, light grey, medium plasticity, firm, saturated Grass/roots present.	No odour
	11/10/2023	Sandy CLAY, soft, light grey/green, high plasticity, fine sand, saturated.	Slight organic odour
March 2024	No Access - drainage channel overgrown with grass, no access to sediment		

Location ID	Sample Date	Sample Description	Odour
SD123	29/04/2020	Sandy CLAY, low plasticity, black, moist, with fine grained sands, highly organic	No odour
	10/09/2020	Gravelly SILT layer, then grey sandy CLAY, medium plasticity, fine sands, saturated, some organics	No odour
	22/04/2021	Sandy CLAY, low plasticity, orange to brown, moist, medium grained sands, with a trace of coarse gravel, medium organic content	No odour
	7/10/2021	Sandy CLAY, saturated, medium plasticity, firm, dark brown to dark grey, well graded fine grained sand. With organics (roots, leaves).	No odour
	21/04/2022	Sandy CLAY. Surface gravel, poor plasticity. Sampled from stagnant pond.	No odour
	17/10/2022	Sandy CLAY, grey to brown, high plasticity, saturated. Sampled close to culvert.	No odour
	21/04/2023	CLAY, light grey, medium plasticity, subangular pebbles	No odour
	11/10/2023	CLAY, soft, dark brown, low plasticity, with coarse subangular gravels.	No odour
20/03/2024	Clayey SAND, loose, light yellow/grey, coarse grained sand, low plasticity, wet.	No odour	
SD125	27/04/2020	Silty CLAY, low plasticity, black, saturated, highly organic	No odour
	7/09/2020	Silty CLAY, dark grey-black, saturated, highly organic	No odour
	22/04/2021	Gravelly CLAY, low plasticity, grey to brown, saturated, fine to coarse gravels, low organic content	No odour
	7/10/2021	Silty CLAY, dry, medium to high plasticity, soft, dark brown. With trace of organics (roots).	No odour
	13/04/2022	Silty CLAY. Medium plasticity, minor organic material (plant material). Sampled from still water.	No odour
	17/10/2022	CLAY, light and dark brown, traces of gravel, trace organic material, dry. Sampled away from surface water due to restricted access.	No odour
	21/04/2023	Sandy CLAY, dark grey, low plasticity, trace coarse sands, saturated Algae present.	Moderate Organic
	11/10/2023	Silty CLAY, soft, light brown, low plasticity, fine loose silt, dry.	No odour
20/03/2024	CLAY, soft, light grey, low plasticity, wet. Organic matter.	No odour	
SD126	29/04/2020	Gravelly CLAY, medium plasticity, brown with orange/black/grey/brown mottle, fine to medium sized gravels, moist, highly organic	No odour
	9/09/2020	CLAY, low to medium plasticity, black to grey, moist, with medium sized gravels and organics (shells)	No odour
	22/04/2021	Gravelly SILT, non-plastic, dark brown, saturated, fine gravels, high organic content	Organic odour
	7/10/2021	CLAY, wet, high plasticity, firm, brown to dark grey, with a trace of coarse grained sand and fine angular gravels. Highly organic (roots, grass).	No odour
	13/04/2022	Silty CLAY. Low plasticity, brown, high organic content (rootlets). Sampled from lake.	No odour
	19/10/2022	NOT SAMPLED. Surface too rocky. No accessible sediment for sample.	No odour
	20/04/2023	Silty SAND, loose, brown, fine subangular grained, fine silt, saturated Wetland grass/organic matter present.	No odour
	11/10/2023	GRAVEL, dark grey/yellow, coarse subangular, poorly sorted, saturated.	No odour
28/03/2024	CLAY, soft, dark grey, high plasticity, moist. Organic matter	No odour	
SD131	29/04/2020	CLAY, high plasticity, dark brown, saturated, with organics	No odour
	9/09/2020	CLAY, medium plasticity, grey, saturated, with organics	No odour
	16/04/2021	Silty CLAY, low plasticity, dark grey, saturated, with high organic content (leaves and roots)	Slight sulfur odour
	7/10/2021	Silty CLAY, saturated, low to medium plasticity, firm, dark grey to black. Highly organic (roots, sticks, grass).	No odour
	13/04/2022	Clayey SILT. Medium plasticity, dark grey, high organic content (plant material). Sampled from still water.	Organic odour
	19/10/2022	CLAY, soft, dark brown/black, medium plasticity, with organic material (roots), wet.	No odour
	21/04/2023	CLAY, dark grey, high plasticity, firm, saturated Wetland grass present.	Moderate Organic
	11/10/2023	CLAY, soft, light grey, high plasticity, saturated.	No odour
20/03/2024	CLAY, soft, light grey, low plasticity, wet. Organic matter.	Sulfidic odour	
On-Base - Mundy Creek Catchment			
SD001	28/04/2020	SAND, medium to coarse grained, dark brown, saturated	No odour
	23/09/2020	SILT, low plasticity, dark brown, moist, highly organic	Organic odour
	22/04/2021	Silty GRAVEL, medium gravel, very loose, brown, saturated	No odour
	7/10/2021	SAND, saturated, well graded medium grained sand, soft, yellow to brown.	No odour
	13/04/2022	Sandy GRAVEL. Medium-coarse, poorly graded, reddish brown colour. Sampled from slowly flowing water in concrete culvert.	No odour
	17/10/2022	Gravelly CLAY, light brown, trace angular gravels and cobbles, dry. Sampled from top of culvert due to hard/compact surface.	No odour
	20/04/2023	Silty SAND, loose, yellow, coarse subangular grained, black fine silt, saturated Algae/roots present.	No odour
	11/10/2023	GRAVEL, green/orange/grey, fine, poorly sorted, saturated.	No odour
20/03/2024	SAND, loose, dark grey with light orange/white inclusions, coarse grained, wet.	No odour	

Location ID	Sample Date	Sample Description	Odour
SD010	28/04/2020	Silty CLAY, low plasticity, dark brown, moist, with organics	No odour
	23/09/2020	Silty CLAY, medium plasticity, brown with orange mottles, some coarse gravels and organics (shells)	No odour
	22/04/2021	Sandy CLAY, high plasticity, orange to brown, saturated, with a trace of medium gravels and some organic content	Organic odour
	7/10/2021	Clayey SAND, saturated, well graded, fine grained, soft, dark grey, medium plasticity clay component. With some organics (roots).	No odour
	13/04/2022	Silty SAND. Well graded, black, high organic content. Sampled from stagnant water at end of culvert.	No odour
	17/10/2022	Silty CLAY, black, high plasticity, with organic materials (roots), saturated. Sampled from culvert.	No odour
	21/04/2023	Silty SAND, loose, yellow, coarse subangular, dark brown, fine, saturated Grass/Roots present.	No odour
	11/10/2023	CLAY, soft, dark brown, high plasticity, saturated. Rootlets present.	No odour
	20/03/2024	CLAY, soft, light grey, low plasticity, wet. Organic matter.	No odour
SD106	25/04/2020	SILT, black saturated, with traces of clay. Floating slime (organic)	Putrid odour
	23/09/2020	Silty CLAY, low to medium plasticity, black with red/yellow mottles, saturated	Organic odour
	11/10/2021	Silty CLAY, dry, medium plasticity, hard, dark brown. Dry salt crystals observed on surface.	No odour
	13/04/2022	Silty CLAY. Medium plasticity, dark brown, high organic material (plant material). Sampled from shallow flowing water.	No odour
	17/10/2022	Silty CLAY, black, trace organic material. Sampled on bank under Mangroves.	Salty/Mangrove odour.
	11/10/2023	CLAY, soft, dark grey, high plasticity, saturated.	Slight organic odour
		March 2024	Flooded tracks, unable to access sampling point
SD121	25/04/2020	SILT, black, highly organic, moist, overlaying CLAY, black with grey and brown/orange, low plasticity, moist, with a trace of organics	No odour
	23/09/2020	Sandy CLAY, dark brown, fine sands, dry, low organic content	No odour
	22/04/2021	Clayey SILT, non-plastic, dark brown, saturated, high organic content	Organic odour
	7/10/2021	Clayey SILT, moist, non-plastic, soft, dark brown. Highly organic (roots).	No odour
	13/04/2022	Sandy LOAM. Low plasticity, black. Some organic material (rootlets).	No odour
	17/10/2022	Silty CLAY, black, high plasticity, with organic materials (roots), moist. Sampled under grass.	No odour
	21/04/2023	SILT, loose, black, saturated Grass present.	Weak Organic
	11/10/2023	CLAY, soft, dark brown with grey mottling, high plasticity, moist.	No odour
	28/03/2024	Gravelly, CLAY, loose, grey, medium plasticity, medium grained gravel, high organic content, wet	No odour
SD132	28/04/2020	SAND, medium to coarse grained, orange/brown, saturated, with some angular to sub angular medium gravels and organics	Decaying odour
	23/09/2020	Gravelly SAND, yellow/brown, some silt and organics (roots)	No odour
	22/04/2021	GRAVEL, fine to medium sub rounded to sub angular gravel, very loose, brown, saturated	No odour
	13/04/2022	SAND. Medium-coarse, poorly graded, minor silt content, reddish brown to black, minor organic content. Sampled from slowly flowing water in concrete culvert.	No odour
	17/10/2022	Silty SAND, dark brown, with organic materials (roots), dry. Sampled from culvert.	No odour
	21/04/2023	CLAY, medium plasticity, dark brown, loose, saturated Roots present.	Weak Organic
	11/10/2023	GRAVEL, loose, grey/green, fine to coarse subangular, moist.	No odour
		20/03/2024	SAND, loose, light yellow, coarse grained, wet. Organic matter
On-Base - Three Mile Creek Catchment			
SD102	29/04/2020	Silty SAND, medium to coarse grained, brown/black, saturated, with some fine to medium sized gravels and trace organics	No odour
	9/09/2020	SILT, black, saturated with some organics (shells)	Putrid odour
	22/04/2021	Gravelly CLAY, low plasticity, grey to brown, saturated, fine gravels, low organic content	No odour
	7/10/2021	SILT, saturated, non-plastic, soft, dark grey to black. Highly organic (roots, leaves, decaying matter).	Strong organic/sulfurous odour
	13/04/2022	Clayey SILT. Medium plasticity, brown-black, trace organic content (plant material). Sampled from flowing concrete culvert.	No odour
	17/10/2022	Silty CLAY, black to brown, high plasticity, fine grained sand, with organic material. Sampled from culvert.	Fish/Marine odour.
	21/04/2023	SILT, loose, black, saturated Roots/Grass present.	Weak Organic
	11/10/2023	CLAY, soft, black, medium plasticity, moist.	Slight organic odour
	20/03/2024	SILT, loose, dark grey/black, fine silt, wet. Organic material, shels.	No odour

Location ID	Sample Date	Sample Description	Odour
Off-Base - Bohle River/Louisa Creek/Town Common Catchment			
SD017	8/09/2020	CLAY, high plasticity, light brown with orange mottles, moist	Decaying odour
	15/04/2021	Silty SAND, coarse grained, black, saturated, high organic content (roots)	No odour
	6/10/2021	SAND, saturated, medium to coarse grained, soft, black and yellow to orange.	No odour
	11/04/2022	Silty GRAVEL. Black, angular gravels, very stiff matrix, high organic component (grass). Sampled from marshy creek.	No odour
	7/10/2022	Sandy GRAVEL, medium to large grained, poorly graded, some organic material (roots and plants), wet. Area adjacent to sample recently mowed, lots of loose grass.	No odour
	21/04/2023	Silty SAND, loose, yellow, coarse grained, dark brown silt, saturated Grass/Roots present.	No odour
	9/10/2023	GRAVEL, dark grey, fine, subangular.	No odour
	11/03/2024	Gravelly SAND, loose, grey, with silt.	No odour
SD021	29/04/2020	Silty CLAY, grey and orange, saturated, with some fine to medium grained sands and organic matter (tree roots)	No odour
	8/09/2020	Silty SAND, fine to medium grained, black, saturated, with organic matter (tree roots)	Sulfur odour
	15/04/2021	Clayey SAND, coarse grained, dark grey, saturated, with organic matter (roots)	No odour
	6/10/2021	Top Layer: SAND, saturated, well graded medium grained, soft, grey. Bottom Layer: CLAY, saturated, medium plasticity, soft, grey, with trace of fine grained sand.	No odour
	11/04/2022	Sandy GRAVEL. Grey, sub-angular, high organic component (grass). Sampled from earthen drain.	No odour
	7/10/2022	Silty SAND, dark brown, low plasticity, fine grained, lots of organic material (roots), wet.	No odour
	3/05/2023	Sandy CLAY, very soft, dark grey, low plasticity, fine grained sand, saturated Root matter present.	No odour
	9/10/2023	Sandy CLAY, soft, light grey, low plasticity, trace fine subangular gravels.	No odour
	11/03/2024	Silty SAND, loose, brown, fine to medium sand.	No odour
SD110	17/04/2020	SILT, black, slightly organic with some fine grained sands, saturated	No odour
	21/09/2020	CLAY, medium plasticity, dark grey, saturated, with organics and very fine sand	Organic odour
	20/04/2021	Silty CLAY, medium plasticity, black, moist, soft, high organic content	No odour
	6/10/2021	Silty CLAY, saturated, medium plasticity, soft, black, with a trace of fine, well graded sand. Highly organic (roots, sticks, leaves).	No odour
	12/04/2022	Sandy SILT. Black, well graded, low plasticity, high organic matter content.	Organic odour
	14/10/2022	SAND, dark and light brown, fine grained, trace gravel. Sample taken from across surface water due to restricted access.	No odour
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
	12/10/2023	CLAY, stiff, dark grey, high plasticity, saturated.	Strong organic odour
	19/03/2024	SILT, loose, dark brown, high plasticity, wet. Organic material.	Organic odour
SD111	17/04/2020	SILT, black, saturated, highly organic with some fine sands	Slight sulfur odour
	21/09/2020	Sandy CLAY, low plasticity, dark grey/brown, saturated, with organics and fine sand	Organic odour
	20/04/2021	Silty CLAY, medium plasticity, black, moist, soft, high organic content	No odour
	6/10/2021	Silty CLAY, saturated, medium plasticity, soft, black, with a trace of fine, well graded sand. Highly organic (roots, sticks, leaves).	Compost/putrefied odour
	13/04/2022	Sandy SILT. Brown, well graded, low plasticity, high organic matter content. Stagnant water present.	Organic odour
	14/10/2022	Silty CLAY, high plasticity, fine grained, trace organic material.	No odour
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
	12/10/2023	CLAY, soft, dark grey with black mottling, high plasticity, saturated.	Slight organic odour
	19/03/2024	SILT, loose, dark brown, high plasticity, wet. Organic material.	Organic odour
SD120	29/04/2020	Silty SAND, with clay, medium grained, grey/black, saturated, with organic matter (tree roots)	Slight sulfur odour
	9/09/2020	Clayey SAND, fine to medium grained, black with orange/grey mottles, firm and some organics	No odour
	15/04/2021	Sandy CLAY, low plasticity, black and brown, saturated, coarse subangular sands and some organics (roots)	No odour
	6/10/2021	SAND, saturated, medium to coarse grained, soft, black, with a trace of silt. With trace of organics (roots).	No odour
	11/04/2022	Silty GRAVEL. Large angular rock fragments, very stiff, black with light brown mottle, some organic content (rootlets). Sampled from earthen drain.	No odour
	7/10/2022	Sandy GRAVEL, dark brown, medium grain, poorly graded, with organic material (roots and plants), moist.	No odour
	3/05/2023	Clayey SAND, very loose, dark grey, fine to medium subangular grained, saturated	No odour
	9/10/2023	SAND, coarse, yellow, poorly sorted.	No odour
	11/03/2024	Silty CLAY, soft, brown, low to medium plasticity.	No odour

Location ID	Sample Date	Sample Description	Odour
SD127	16/04/2020	Silty SAND, with some gravels, black, saturated, with some clay	No odour
	24/09/2020	Gravelly SAND, brown/black with orange and yellow sands/gravels, overlaying CLAY, medium plasticity, dark grey, saturated, some fine sands	-
	6/10/2021	Clayey SILT, saturated, non-plastic, soft, black. Highly organic (roots, sticks, leaves).	No odour
	11/04/2022	Silty GRAVEL. Large angular rock fragments, very stiff, dark brown, some organic content (rootlets). Sampled from concrete culvert.	No odour
	7/10/2022	Silty SAND, soft, dark brown, poorly graded, with organic material (roots and leaves), wet.	No odour
	21/04/2023	SAND, black, loose, coarse, subangular pebbles, saturated	No odour
	9/10/2023	Gravelly SAND, coarse, grey/yellow, low plasticity, fine gravel, saturated.	No odour
	11/03/2024	Silty CLAY, soft, brown, low plasticity with organic matter.	No odour
SD129	16/04/2020	Dark brown SAND layer, then black CLAY, with organics, fine to medium grained sands, saturated, some medium gravels	No odour
	24/09/2020	Silty SAND, black, saturated, some angular gravels	No odour
	20/04/2021	Clayey SAND, fine grained, grey with red to orange mottles, loose, saturated, with a trace of silt	No odour
	6/10/2021	CLAY, saturated, medium plasticity, soft, dark brown to black, with a trace of medium angular gravels. With trace of organics (leaves).	No odour
	11/04/2022	Sandy GRAVEL. Sub-angular pebbles. Sampled from Bohle River.	No odour
	7/10/2022	SAND, dark brown, medium grained, poorly graded, with silt, wet.	No odour
	21/04/2023	CLAY, loose, dark brown, low plasticity, saturated	No odour
	9/10/2023	CLAY, soft, dark grey, high plasticity with trace fine sands, saturated.	No odour
	11/03/2024	Silty CLAY, dark brown, low plasticity.	No odour
SD201	16/04/2020	SAND, fine to medium grained, brown and black, saturated, with some medium gravels	No odour
	6/10/2021	SAND, saturated, well graded, fine to medium grained, soft, black.	Brackish odour
	11/04/2022	Silty SAND. Black with grey mottles.	Organic odour
	14/10/2022	SAND, pale yellow-brown, fine grained, with organic material, moist.	No odour
	3/05/2023	SAND, very loose, brown, fine to coarse grained, subangular, saturated	No odour
	9/10/2023	Gravelly SAND, soft, light brown, medium grained sand, fine gravel, saturated.	No odour
	19/03/2024	Silty SAND, loose, light brown, fine grained sand, wet. Organic material.	No odour
SD202	29/04/2020	Sandy CLAY, low plasticity, black, saturated, with medium grained sands	Sulfur odour
	8/09/2020	Silty Sandy CLAY, low plasticity, black and grey, saturated, with medium grained sands	No odour
	15/04/2021	Clayey SILT, low plasticity, grey, saturated, with trace of fine grained sands	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component. Mud crab observed (not in sample), slight biosheen on water surface.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown, high plasticity with trace sands, saturated. Sampled on bank under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
	6/10/2023	Silty SAND, dense, light brown, medium grained sand, saturated.	Organic odour
	15/03/2024	Silty SAND, loose, dark brown, fine to medium grained sand, wet.	No odour
SD203	29/04/2020	Sandy CLAY, low plasticity, grey/black, saturated, with medium grained sands	No odour
	8/09/2020	SILT, black, firm, saturated, with fine to coarse grained sands	No odour
	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with organic inclusions	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, with inclusions of high plasticity dark grey clay.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown with some black with orange mottling, high plasticity, trace sands, with organic material (roots), moist. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
	6/10/2023	Silty CLAY, dense, dark grey, fine silt, saturated.	No odour
	15/03/2024	Silty CLAY, soft, dark brown, low plasticity, with fine sand, wet.	No odour
SD204	29/04/2020	Sandy CLAY, low plasticity, grey/black, saturated, with medium grained sands	No odour
	8/09/2020	CLAY, medium plasticity, dark grey, moist, dense	No odour
	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with shells	No odour
	29/09/2021	Silty CLAY, saturated, medium plasticity, soft, dark brown.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown and black, high plasticity, trace sands, with organic material (roots) moist. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
	6/10/2023	Silty CLAY, dense, dark grey, fine silt, saturated.	No odour
	15/03/2024	Silty sandy CLAY, soft, dark brown, low plasticity, fine sand, wet.	No odour

Location ID	Sample Date	Sample Description	Odour
SD205	29/04/2020	Sandy silty CLAY, low plasticity, brown and black, saturated, with organic matter (root fibres)	No odour
	8/09/2020	CLAY, medium plasticity, grey with black/brown mottles, moist, some medium grained sands	No odour
	15/04/2021	Sandy CLAY, low plasticity, grey with orange inclusions, saturated, coarse grained sands, with silt	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, with some inclusions of grey non-uniform medium grained sands.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown, high plasticity, trace sand, organic material (shells, biota), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
	6/10/2023	Silty CLAY, dense, dark brown/grey, fine silt, saturated.	No odour
15/03/2024	Silty CLAY, soft, dark brown, low to medium plasticity, wet.	No odour	
SD206	29/04/2020	CLAY, low plasticity, blue/grey, saturated, with fine grained sands and organic matter (root fibres)	No odour
	8/09/2020	Sandy CLAY, low to medium plasticity, dark grey, saturated, with medium grained sands	No odour
	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with organic inclusions	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown, high plasticity, trace sand, with organic material (roots), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
	6/10/2023	Silty CLAY, dense, dark brown, fine silt, saturated.	No odour
15/03/2024	Silty sandy CLAY, dark brown, low plasticity, fine sand.	No odour	
SD207	29/04/2020	Sandy CLAY, low plasticity, black, saturated, with medium grained sands	No odour
	8/09/2020	CLAY, low to medium plasticity, brown with grey/orange mottles, moist, with medium grained sands and organic (shell fragments)	No odour
	15/04/2021	Sandy CLAY, medium plasticity, brown, saturated, with some fine angular gravels	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, some organics (mangrove roots).	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown to black, high plasticity, with trace sands, with organic material (roots), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
	6/10/2023	Silty CLAY, dense, dark grey, fine silt, saturated.	Organic/hydrogen sulfide odour
15/03/2024	Silty CLAY, soft, dark brown, low to medium plasticity, wet.	No odour	
Off-Base - Mundy Creek Catchment			
SD108	15/04/2020	SILT, black, saturated, some organics	No odour
	21/09/2020	Clayey SAND, fine to medium grained, light brown, saturated	No odour
	20/04/2021	Silty SAND, fine grained, grey to black, moist, loose, high organic content	Organic odour
	6/10/2021	Silty CLAY, saturated, low plasticity, firm, dark brown to grey.	Organic/sulfurous odour
	17/04/2022	CLAY. High plasticity, brown colour, some minor coarse fragments. Sampled from ponded water in creek.	Organic odour
	14/10/2022	Silty CLAY, dark grey to dark brown, high plasticity, fine grained. Sampled on bank under Mangroves.	Organic (mud) odour.
	21/04/2023	SILT, black, loose, saturated, coarse yellow sands trace Leaves/Grass present.	Strong Organic
	12/10/2023	Sandy CLAY, soft, dark grey, high plasticity, coarse poorly graded sand, saturated.	Slight organic odour
19/03/2024	Clayey SILT, firm, black, medium plasticity, wet. Organic material.	No odour	
SD109	15/04/2020	SILT, black, some gravels, saturated	No odour
	21/09/2020	Clayey SAND, fine grained, dark grey, saturated	No odour
	20/04/2021	Silty SAND, fine grained, grey to brown, moist, loose, some broken shells and some medium to coarse subangular gravels	No odour
	6/10/2021	SAND, saturated, well graded, medium grained, soft, yellow.	No odour
	17/04/2022	SAND. Coarse, well graded, trace organics. Sampled from creek, under bridge.	No odour
	7/10/2022	SILT, brown, medium plasticity, with organic material (some marine shell), wet.	No odour
	21/04/2023	Sandy CLAY, dark grey/black, medium plasticity, firm, yellow coarse sands, saturated Shells present.	Moderate Organic
	12/10/2023	SAND, light brown/yellow, coarse grained, well sorted, saturated.	No odour
20/03/2024	SAND, loose, light brown, coarse grained, wet.	No odour	

Table T6: Sediment Field Observations

Location ID	Sample Date	Sample Description	Odour
SD113	16/04/2020	Silty CLAY, black, saturated	Strong sulfur odour
	23/09/2020	CLAY, high plasticity, dark brown to black, moist, stiff, with organics	No odour
	6/05/2021	Silty CLAY, dark grey, saturated, with some organic content	Distinct sulfur odour
	6/10/2021	Clayey SAND, saturated, well graded, fine to medium grained, firm, black, medium plasticity clay component. With some organics (roots).	No odour
	17/04/2022	SAND. Medium-coarse, poorly graded, black, high organic content (plant material). Sampled from still pond covered in lilies.	No odour
	7/10/2022	Sandy CLAY, dark brown, fine grained, poorly graded, with organic materials (roots and algae), wet.	No odour
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
	9/10/2023	CLAY, soft, dark grey, low plasticity.	Organic odour
11/03/2024	Silty CLAY, soft, black, with some sand and organic matter.	No odour	
SD114	15/04/2020	Silty CLAY, black, saturated, some organics (tree roots)	Sulfur odour
	21/09/2020	Clayey SILT, low plasticity, dark grey to black, saturated, with organics (roots)	Sulfur odour
	22/04/2021	Sandy CLAY, high plasticity, soft, red, orange and brown mottles, saturated	No odour
	6/10/2021	Silty CLAY, saturated, low plasticity, firm, dark brown to black. Highly organic (roots).	No odour
	11/04/2022	Silty CLAY. Dark brown, medium plasticity, minor organic content (plant material). Sampled from creek.	No odour
	7/10/2022	SILT, dark brown, low plasticity, wet.	No odour
	22/04/2023	CLAY, dark brown/black, high plasticity, firm, saturated Leaves/Roots present.	Moderate Organic
	9/10/2023	CLAY, firm, light grey with light orange mottling, medium plasticity.	No odour
11/03/2024	Silty CLAY, soft, brown.	No odour	
SD115	15/04/2020	Silty SAND, black, saturated, with organics	Slight sulfur odour
	21/09/2020	SILT, low plasticity, black, saturated, with organics	Sulfur odour
	16/04/2021	Silty CLAY, low plasticity, black, saturated, with some medium grained sands, some organic content (leaves)	No odour
	6/10/2021	CLAY, saturated, medium plasticity, firm, dark brown to black, with a trace of coarse angular gravels. With some organics (roots).	No odour
	17/04/2022	Sandy SILT. Dark brown colour. Minor organic material (roots). Sampled from earthen creek.	No odour
	7/10/2022	Silty CLAY, brown, medium plasticity, wet.	No odour
	21/04/2023	CLAY, dark brown/black, medium plasticity, saturated, loose Roots/Leaves present.	Moderate Organic
	3/10/2023	Sandy CLAY, dense, brown, fine sand, moist.	No odour
11/03/2024	Silty CLAY, brown, low to medium plasticity.	No odour	
SD116	15/04/2020	Silty gravelly SAND, black, saturated, with organics	No odour
	21/09/2020	Gravelly CLAY, low plasticity, dark brown, saturated, some medium to coarse gravels	No odour
	20/04/2021	CLAY, high plasticity, brown with black mottles, saturated, firm, some coarse sands and coarse angular gravels, with a trace of organic content	Organic odour
	6/10/2021	Gravelly CLAY, saturated, medium to high plasticity, firm, dark brown to black, fine to coarse angular gravels.	No odour
	17/04/2022	Sandy SILT. Medium plasticity, dark brown, some organic content (roots, leaves). Sampled from turbid water beneath bridge.	Organic odour
	14/10/2022	Silty CLAY, brown, high plasticity, organic materials (some shell). Sampled on bank under Mangroves.	No odour
	21/04/2023	SAND, black, coarse, loose, saturated, subangular pebble inclusions Roots present.	Moderate Organic
	12/10/2023	Sandy CLAY, soft, light grey, low plasticity, coarse grained, poorly graded sand.	No odour
11/03/2024	Silty CLAY, soft, grey, low plasticity.	No odour	
SD117	16/04/2020	SILT, black, saturated, slightly organic	Decaying odour
	21/09/2020	Clayey SILT, low plasticity, black, saturated, organic matter	Sulfur odour
	16/04/2021	Silty Gravelly CLAY, low plasticity, black, saturated, fine to medium sub angular gravels, high organic content (leaves and sticks)	Distinct sulfur odour
	7/10/2021	Sandy SILT, saturated, non-plastic, soft, black, medium grained sand component. Highly organic (roots, sticks, leaves).	No odour
	11/04/2022	Silty SAND. Dark brown, low cohesion, sub-angular grains. Some organic matter present (leaves and roots). Sampled from concrete culvert.	Slight sulfurous odour
	7/10/2022	Silty SAND, dark brown, fine grained, poorly graded, organic material (some roots), dry.	No odour
	21/04/2023	SILT, loose, dark brown, saturated Leaves/Roots present.	No odour
	9/10/2023	CLAY, soft, black, low plasticity, with fine subangular gravels.	Organic odour
11/03/2024	Silty CLAY, very soft, black, low plasticity, with some organic matter.	No odour	

Location ID	Sample Date	Sample Description	Odour
SD118	16/04/2020	SILT, black, saturated, with organics	No odour
	21/09/2020	SILT, low plasticity, black, saturated, with organics	Sulfur odour
	16/04/2021	Sandy CLAY, low plasticity, black to grey, saturated, coarse sands, with fine layer of silt at surface, high organic content (leaves and sticks)	Decaying organic odour
	7/10/2021	Silty CLAY, saturated, low to medium plasticity, soft, dark brown to black. With some organics (roots, leaves).	Putrefied odour
	11/04/2022	Silty SAND. Dark grey-brown, moderately cohesive. Sampled from shallow creek.	Sulfurous odour
	7/10/2022	Silty CLAY, dark brown, fine grained, wet.	Salty/Organic odour
	21/04/2023	CLAY, light grey, moderate plasticity, saturated, loose Grass present.	No odour
	9/10/2023	CLAY, soft, black, low plasticity, with trace loose silt.	Organic odour
11/03/2024	Silty CLAY, very soft, low to medium plasticity, with some organic matter.	No odour	
SD119	16/04/2020	Gravelly SAND, medium to coarse sands, fine gravels brown, saturated, with some organics	No odour
	23/09/2020	Sandy CLAY, low plasticity, dark brown with black mottles, some fine to medium gravels and organics	Organic odour
	6/10/2021	Silty sandy GRAVEL, saturated, fine sub angular to angular gravels, soft, black, medium to coarse sands.	No odour
	11/04/2022	Sandy GRAVEL. Sub-angular, some organic content (algae). Sampled from concrete culvert.	No odour
	7/10/2022	SAND, pale brown, poorly graded, dry. Sampled above the concrete culvert airside.	No odour
	22/04/2023	SAND, dark brown, coarse, loose, subangular pebble inclusions, saturated Leaves present.	No odour
	9/10/2023	Silty SAND, loose, dark grey, coarse subangular grained sand, fine silt, saturated.	Organic odour
	March 2024	No Sediment - Concrete drain, no sediment sample collected.	
SD208	15/04/2020	Sandy SILT, black, saturated	No odour
	21/09/2020	Sandy Gravelly CLAY, low plasticity, dark grey to brown, saturated, some coarse sands, find to medium gravels and organics (roots)	No odour
	20/04/2021	CLAY, medium to high plasticity, black with red to orange mottles, moist, soft, with a trace of coarse angular sands and some organic content	Organic odour
	6/10/2021	CLAY, wet to saturated, medium to high plasticity, firm, dark brown to black.	No odour
	12/04/2022	Sandy CLAY. Brown, high plasticity, minor organic content	Organic odour
	14/10/2022	Silty CLAY, dark brown, high plasticity, trace sand and gravels. Sampled on bank under Mangroves.	No odour
	22/04/2023	SAND, light brown/yellow, coarse, subangular pebble inclusions, saturated Shells present.	No odour
	12/10/2023	CLAY, soft, dark grey, high plasticity, with coarse subrounded gravels, saturated.	Slight organic odour
20/03/2024	SAND, loose, light brown, coarse grained sand. Organic matter	No odour	
SD209	25/04/2020	Silty CLAY, black, saturated, highly organic	Sulfur odour
	23/09/2020	Silty CLAY, high plasticity, black, saturated, with organics (roots)	No odour
	11/10/2021	Silty CLAY, dry, medium plasticity, hard, dark brown. Dry salt crystals observed on surface.	No odour
	13/04/2022	Silty CLAY. Medium plasticity, dark grey/brown colour, high organic content (plant material). Sampled from slow flowing creek.	No odour
	7/10/2022	SILT, dark brown to black, low plasticity, wet.	No odour
	11/10/2023	CLAY, soft, dark grey, high plasticity, saturated.	Slight organic odour
	March 2024	Flooded tracks, unable to access sampling point	
Off-Base - Three Mile Creek Catchment			
SD107	15/04/2020	SILT, black, high levels of leaf and organic matter, saturated	Strong sulfur odour
	21/09/2020	CLAY, low plasticity, black, moist, traces of sands	No odour
	20/04/2021	SILT, non-plastic, black, moist, soft, high organic and decomposing organic content	Organic odour
	6/10/2021	Silty CLAY, dry, medium plasticity, hard, black. Dry salt crystals observed on surface.	Saline odour
	12/04/2022	Sandy SILT. Medium plasticity, well graded, brown, high organic content (leaves).	Organic odour
	14/10/2022	CLAY, black, high plasticity, moist. Animal prints across sediment surface.	Salty/Organic odour.
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
	12/10/2023	CLAY, soft, dark grey with black mottling, high plasticity.	Strong organic odour
20/03/2024	CLAY, soft, dark grey, low plasticity, wet.	Slight organic odour	
SD210	15/04/2020	SILT with sand, black-brown, mangrove roots, saturated	No odour
	21/09/2020	Sandy CLAY, low plasticity, brown/orange, saturated, with some sands and gravels	No odour
	16/04/2021	Sandy Clayey SILT, non-plastic, dark grey, saturated, fine sands, with some organic content (leaves and roots)	No odour
	6/10/2021	Sandy CLAY, saturated, low to medium plasticity, soft, dark brown to black, fine grained sand component, with trace of coarse angular gravels.	Coastal/mangrove mud odour
	12/04/2022	Clayey SILT. Medium plasticity, well graded dark grey-brown, high organic content.	No odour
	14/10/2022	Silty CLAY, dark brown, high plasticity, trace organics.	No odour
	22/04/2023	CLAY, light grey/black, firm, high plasticity, saturated	Slight Organic
	12/10/2023	CLAY, medium density, dark grey, high plasticity, fine trace sands, saturated.	No odour
	19/03/2024	CLAY, dense, grey, high plasticity, wet.	No odour

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHPA	PFHps	PFHxA	PFHsS	PFPeA	PFPeS	PFToDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHsS	Sum of PFAS	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHPA	PFHps	PFHxA	PFHsS	PFPeA	PFPeS	PFToDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHsS	Sum of PFAS		
On-Base - Bohle River/Louisa Creek/Town Common Catchment	9/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0007	0.0092	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0569	0.0007	0.0661	0.069	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.001	0.006	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.103	0.0006	0.109	0.112	
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0002	0.0021	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0247	<0.0002	0.0268	0.0277	
	30/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	0.0004	<0.0002	<0.0002	0.0004	0.0016	0.0057	0.0003	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0222	0.0003	0.0279	0.0321	
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0044	0.004	<0.0002	0.001	<0.0002	0.0015	0.0026	0.0122	0.0371	0.0023	0.0056	<0.0005	<0.0002	<0.0002	<0.0002	0.0003	0.124	0.0034	0.161	0.198	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0008	0.0059	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0451	0.0003	0.051	0.0541	
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.001	0.0059	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0215	0.0004	0.0272	0.0305	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0009	<0.0002	<0.0002	0.001	0.0005	0.0075	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0638	0.0005	0.0713	0.0748	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0009	0.0077	<0.0004	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0342	0.0004	0.0419	0.0457	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	0.0006	<0.0002	<0.0002	<0.0002	0.001	0.0014	0.0093	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0594	0.0006	0.0687	0.0741	
	17/10/2022	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	0.0028	<0.01	0.0091	<0.002	<0.002	<0.002	0.0107	0.0089	0.0807	<0.002	0.0057	<0.0049	<0.002	<0.002	<0.002	<0.002	0.669	0.0024	0.75	0.789	
	20/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0004	0.0032	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0243	<0.0002	0.0275	0.0288	
	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004	0.0024	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0159	<0.0002	0.0183	0.0194	
	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0153	<0.0002	0.0168	0.0171	
	SD013	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0005	<0.0002	<0.0002	<0.0002	0.0003	0.0014	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0052	0.0003	0.0066	0.0077	
19/04/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0002		
12/12/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0006	<0.0002	<0.0002	<0.0002	<0.0002	0.003	<0.0002	0.0034	0.0038	
3/05/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0023	0.0023	
24/10/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005	
28/04/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
24/09/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
22/04/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005
7/10/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.001	0.001
13/04/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004	
7/10/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	<0.0005	<0.0012	<0.0005	<0.0002	<0.0002	<0.0002	<0.0005	0.0134	<0.0005	0.0149	0.0149
12/12/2022		<0.0005	<0.0																														

Table T7: Historical Sediment PFAS Analytical Results

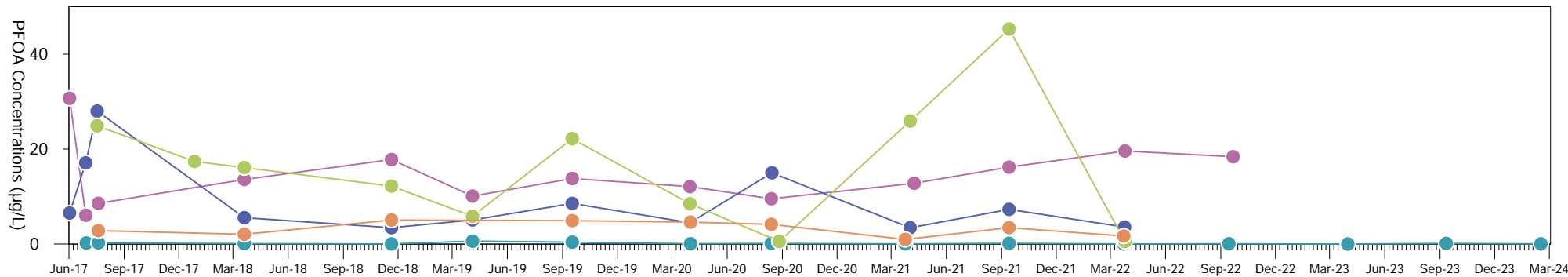
		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOsAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	
Location ID	Sample Date																															
SD123	7/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0102	<0.0005	<0.0002	<0.0005	0.0153	0.006	0.0008	0.0054	0.0024	0.0066	0.0454	0.058	0.183	0.0126	0.0255	<0.0005	0.0005	0.0006	0.0009	2.75	0.0245	2.93	3.15	
	7/06/2017	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	0.0025	<0.0062	<0.0025	<0.0062	0.0178	0.022	<0.0025	<0.0025	0.0089	0.0292	0.0651	0.173	0.0182	0.0194	<0.0062	<0.0025	0.0003	0.0034	1.3	0.0169	1.47	1.68	
	18/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0027	0.001	<0.0002	0.003	<0.0002	0.0008	0.0018	0.007	0.0218	0.0018	0.0027	<0.0005	<0.0002	<0.0002	<0.0002	0.127	0.0018	0.15	0.18	
	18/04/2018	-	-	-	-	-	-	-	-	0.004	-	-	-	0.0028	0.005	0.0027	0.0061	0.0005	0.0077	-	0.0304	0.0235	0.0069	0.0033	-	-	0.0007	0.0056	0.208	0.0214	0.23	0.322
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.001	<0.001	<0.0002	0.0048	0.0004	0.0002	0.0012	0.0022	0.0052	0.0006	0.0007	<0.0005	<0.0002	0.0004	<0.0002	0.157	0.0007	0.162	0.176	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	0.0014	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0002	0.0019	<0.0002	0.0004	0.0011	0.0019	0.0087	0.0004	0.001	<0.0005	<0.0002	<0.0002	0.0476	0.0005	0.0563	0.0661	
	18/10/2019	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0003	<0.0005	0.0003	<0.0005	0.0003	<0.0005	0.0015	0.005	0.0004	0.0048	0.0007	0.003	0.0111	0.0262	0.0809	0.0075	0.0122	<0.0005	0.0004	0.0003	0.0009	0.522	0.0076	0.603	0.706	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0008	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0013	0.0138	<0.0005	0.0009	<0.0012	<0.0005	<0.0005	<0.0005	0.184	0.0009	0.198	0.203	
	10/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	0.0058	<0.0025	<0.001	<0.0025	0.0014	<0.005	0.0011	<0.001	<0.001	<0.001	0.0039	0.0025	0.022	<0.001	0.0012	<0.0025	<0.001	<0.001	<0.001	0.243	0.0017	0.265	0.283	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0027	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0077	0.0004	0.0002	0.0027	0.0021	0.0168	0.0005	0.0011	<0.0005	<0.0002	0.0003	<0.0002	0.142	0.0012	0.159	0.178	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0042	<0.0012	<0.0005	<0.0012	<0.0005	<0.0002	<0.0005	0.0049	<0.0005	<0.0005	0.001	0.0012	0.005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	0.152	<0.0005	0.157	0.168	
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0039	<0.0012	<0.0005	<0.0012	<0.0005	<0.0002	<0.0005	0.0048	<0.0005	<0.0005	0.0019	0.0086	<0.0005	0.0007	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.142	0.0006	0.151	0.158	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0042	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0062	<0.0002	0.0005	<0.0002	0.0006	0.0012	0.0039	0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0532	0.0003	0.0571	0.0709	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0005	<0.0013	0.0012	<0.0013	<0.0005	<0.0013	<0.0018	<0.002	<0.0005	<0.004	<0.0005	0.001	0.0033	0.0045	0.0225	0.0014	0.0021	<0.0013	<0.0005	<0.0005	<0.0005	0.291	0.0018	0.314	0.329	
	11/10/2023	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	0.0082	<0.0025	<0.001	<0.0025	0.0082	<0.005	<0.001	<0.001	0.0012	0.0058	0.0264	0.469	0.0042	0.0142	<0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.988	0.0432	1.46	1.61	
20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0002	0.0005	<0.0002	0.0002	0.0041	0.002	0.014	0.0003	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.27	0.0008	0.284	0.295		
SD125	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	0.0017	0.0175	0.0185	0.124	0.0022	0.0064	<0.0025	<0.0010	<0.0010	0.818	0.0056	0.942	1		
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0006	<0.0002	0.0002	0.0038	0.0032	0.0214	0.0003	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.147	0.0012	0.168	0.179	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	<0.001	<0.0002	0.0004	<0.0002	0.0006	0.0028	0.0062	0.0202	0.0011	0.0018	<0.0005	<0.0002	<0.0002	0.109	0.0017	0.129	0.145		
	15/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0048	<0.001	<0.0002	<0.0002	<0.0002	0.001	0.005	0.0159	0.0542	0.0027	0.005	<0.0005	<0.0002	<0.0002	0.224	0.0038	0.278	0.317		
	27/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0006	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0012	0.01	<0.0005	0.0006	<0.0012	<0.0005	<0.0005	<0.0005	0.088	<0.0005	0.098	0.101	
	7/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<0.0005	<0.0002	<0.0005	0.001	<0.002	0.0047	<0.0002	<0.0002	0.0002	0.0014	0.0028	0.0109	0.0007	0.001	<0.0005	<0.0002	<0.0002	0.306	0.0007	0.317	0.331		
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0017	<0.001	<0.0002	0.0002	<0.0002	0.0005	0.0019	0.0092	0.0248	0.0013	0.0025	<0.0005	<0.0002	<0.0002	0.0534	0.0013	0.0782	0.0971		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0008	<0.0012	<0.0005	<0.0012	0.0019	<0.002	<0.0005	0.0022	<0.0005	<0.0005	0.0015	0.0041	0.0162	0.0005	0.0019	<0.0012	<0.0005	<0.0005	<0.0005	0.155	<0.0005	0.171	0.184	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0009	<0.002	<0.0005	<0.0005	<0.0005	0.0031	0.0034	0.038	<0.0005	0.0015	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.327	0.0013	0.365	0.382	
	17/10/2022	<0.0049	<0.0049	<0.0049	<0.0049	<0.0123	<0.0049	<0.0123	<0.0049	<0.0123	<0.0049	<0.0123	0.258	0.038	<0.0049	<0.0049	<0.0049	0.0868	0.23	0.849	3.54	0.108	0.389	<0.0123	<0.0049	<0.0049	<0.0049	3.18	0.159	6.72	8.84	
	12/12/2022	<0.0026	<0.0026	<0.0026	<0.0026	<0.0064	<0.0026	<0.0064	0.0127	<0.0064	<0.0026	<0.0064	0.0098	<0.013	0.0505	<0.0026	<0.0026	0.0029	0.0122	0.024	0.0931	0.0034	0.0093	<0.0064	<0.0026	<0.0026	<0.0026	2.31	0.0044	2.4	2.53	
	21/04/2023	<0.0248	<0.0248	<0.0248	<0.0248	<0.0619	<0.0248	<0.0619	0.0971	<0.0619	<0.0248	<0.0619	0.056	<0.124	<0.0248	<0.0248	<0.0248	0.0411	0.0411	0.321	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	9.46	<0.0248	9.78	10		
	11/10/2023	<0.005	<0.005	<0.005	<0.005	<0.0124	<0.005	<0.0124	<0.005	<0.0124	<0.005	<0.0124	0.181	0.057	<0.005	<0.005	<0.005	0.0056	0.0625	0.161	0.177	0.0825	0.0292	<0.0124	<0.005	<0.005	<0.005	8.94	0.0159	9.12	9.71	
	20/03/2024	<0.001	<0.001	<0.001	<0.001	<0.004	<0.001	<0.004	0.0144	<0.001	<0.004	<0.001	0.0082	<0.002	<0.0004	0.0385	0.0018	0.0026	0.0493	0.0189	0.242	0.0022	0.013	<0.0								

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOsAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
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		0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	
Location ID	Sample Date																															
SD010	30/05/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	0.0002	<0.0002	0.0005	0.0004	0.0007	0.0007	0.0144	<0.0002	0.0007	<0.0005	<0.0002	0.0005	0.0002	0.0358	0.0013	0.0502	0.0566	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0007	0.0022	0.0004	0.0003	<0.0005	<0.0002	<0.0002	0.0005	0.0002	0.0122	0.0006	0.0144	0.0171
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	0.0199	<0.0002	0.0203	0.0203	
	14/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0007	0.0041	0.0003	0.0005	<0.0005	<0.0002	<0.0002	0.0154	0.0004	0.0195	0.0224
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0015	<0.0002	0.0015	0.0017	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.012	<0.0002	0.0129	0.0131	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0006	<0.0002	<0.0002	0.0003	0.0004	0.0035	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0239	0.0003	0.0274	0.0296	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0052	<0.0002	0.0056	0.0056	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.006	<0.0002	0.0062	0.0062	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0021	0.0002	<0.0005	0.0003	<0.0002	<0.0002	0.0201	0.0006	0.0222	0.0237	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0006	0.0075	0.0003	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0364	0.0004	0.0439	0.0473	
	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0004	<0.001	<0.0002	0.0004	<0.0005	<0.0002	0.0005	<0.0002	0.0004	0.0019	<0.0003	<0.0002	<0.0005	<0.0002	0.0003	0.0004	0.0561	0.0003	0.0580	0.0603
	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0011	<0.0002	<0.0002	0.0003	0.0007	0.0025	0.0002	0.0002	<0.0005	<0.0002	<0.0002	0.0002	0.0496	0.0004	0.0521	0.0556	
SD106	16/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0022	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0052	<0.0002	0.0074	0.0091		
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	0.0706	<0.0002	0.0723	0.0729		
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0022	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0633	0.0002	0.0655	0.0661		
	11/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0025	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0366	<0.0002	0.0391	0.0394		
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	0.0252	<0.0002	0.0262	0.0262		
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0091	<0.0002	0.0099	0.0099	
11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0003	0.0003	<0.0002	0.0006	<0.0002	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.146	<0.0002	0.148	0.148		
SD121	12/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0022	<0.001	0.0008	0.0006	<0.0002	0.0002	0.0008	0.0007	0.0042	<0.0002	0.0003	<0.0005	<0.0002	0.0005	0.0004	0.103	0.0008	0.107	0.114		
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0009	0.0009		
	18/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0019	0.0019		
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0097	<0.0002	0.0107	0.0107	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0079	<0.0002	0.0083	0.0086	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.001	0.0002	0.0002	0.0004	0.0012	0.0044	0.0003	0.0005	<0.0005	<0.0002	<0.0002	0.0539	0.0006	0.0583	0.0636		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0003	0.0098	0.0008	<0.0002	0.0008	0.0002	0.004	<0.0002	0.0003	<0.0005	0.0003	<0.0002	0.0857	<0.0002	0.0897	0.102		
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005																										

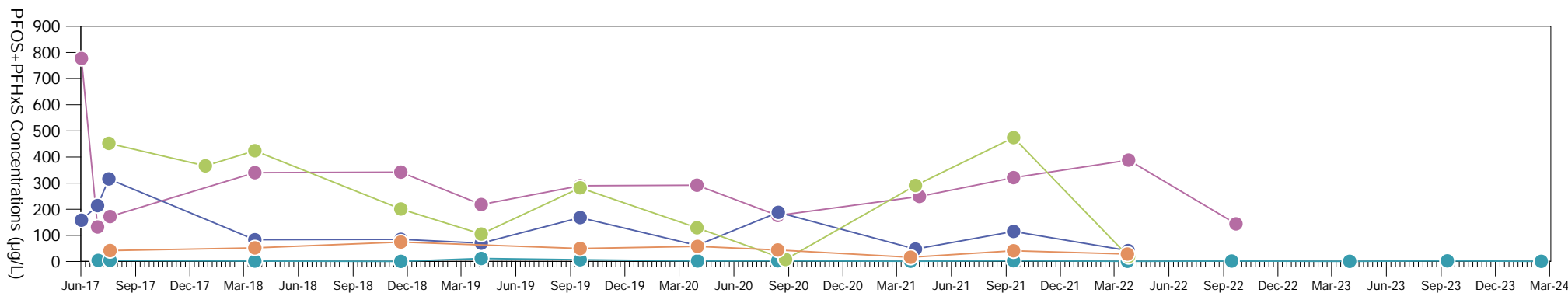
Appendix C

Graphs and Plots

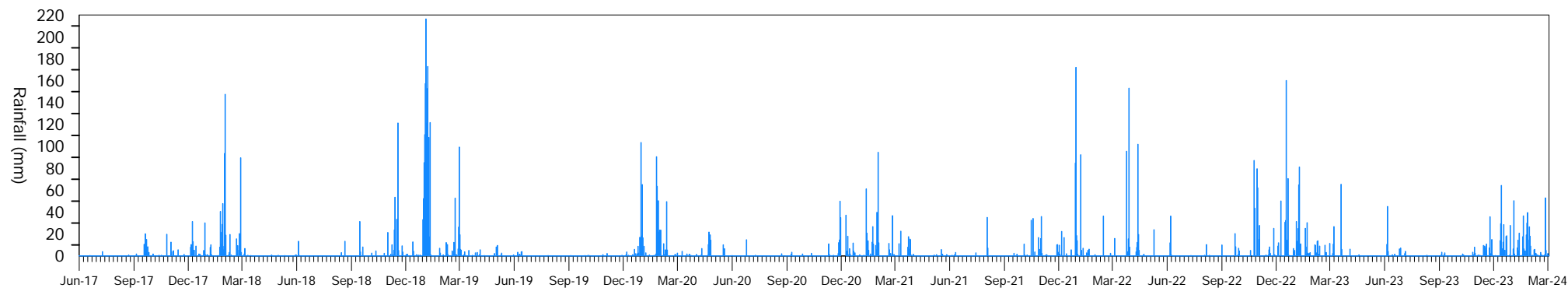
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 1a - PFOA (µg/L)



Plot 1b - PFOS+PFHxS (µg/L)



Plot 1c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024



LEGEND

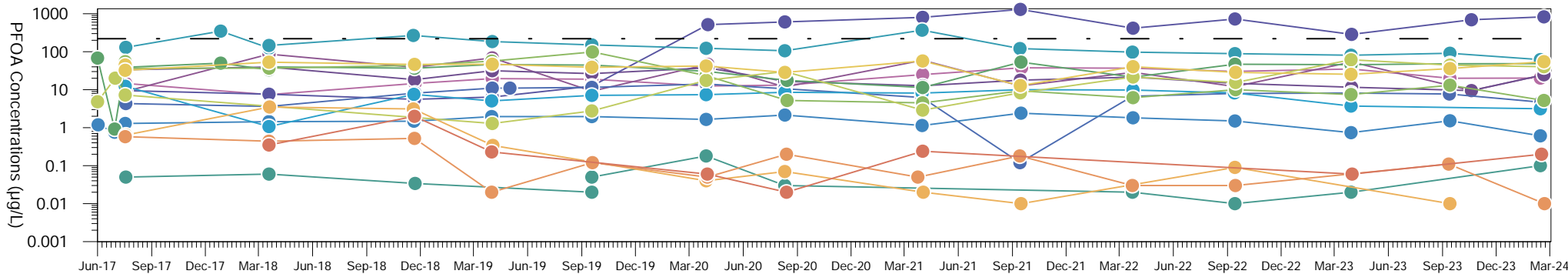
- MW013
- MW116
- MW118
- MW126
- MW129
- Daily Rainfall
- PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)

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

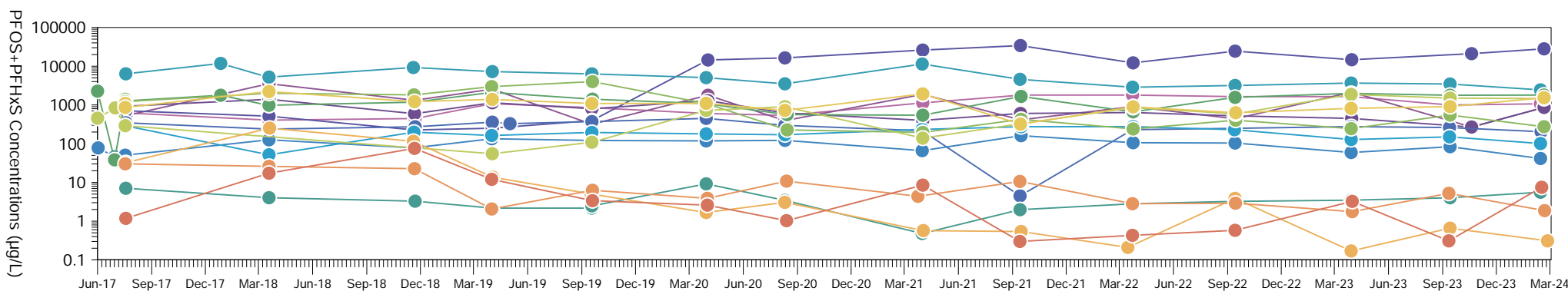
Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Data sources: Department of Defence Esdat

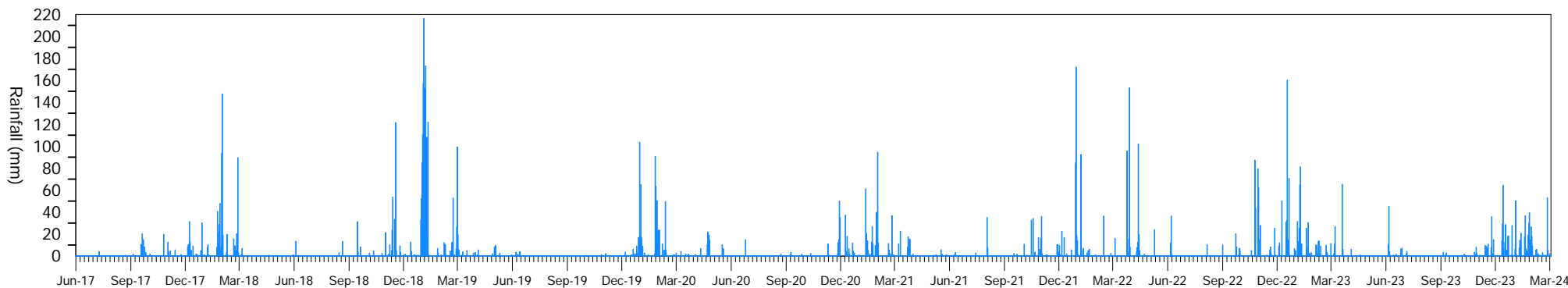
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 2a - PFOA (µg/L)



Plot 2b - PFOS+PFHxS (µg/L)



Plot 2c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024



- LEGEND**
- MW005
 - MW055
 - MW139
 - MW015
 - MW081
 - MW246
 - MW016
 - MW090
 - MW250
 - MW021
 - MW109
 - MW251
 - MW046
 - MW110
 - Daily Rainfall
 - PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)
 - MW054
 - MW138

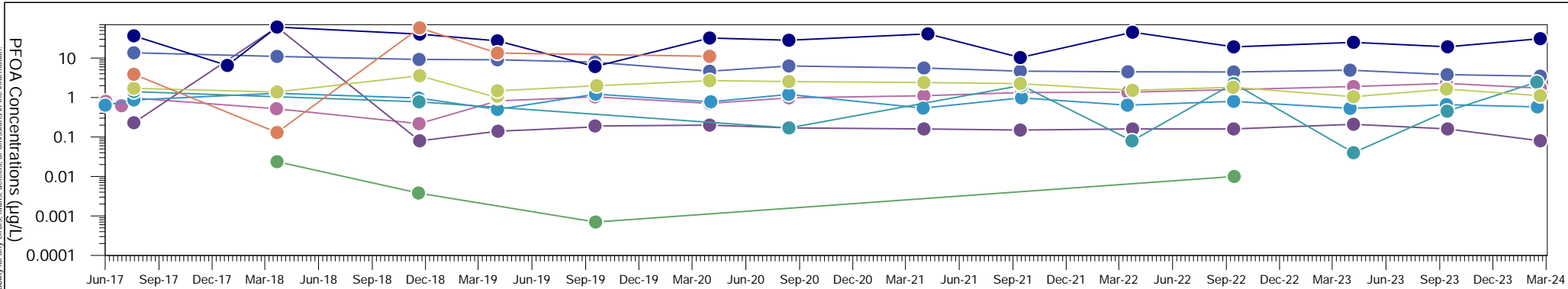
**PFOA and PFOS+PFHxS Concentrations
 Groundwater - Sub-Management Area 2**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

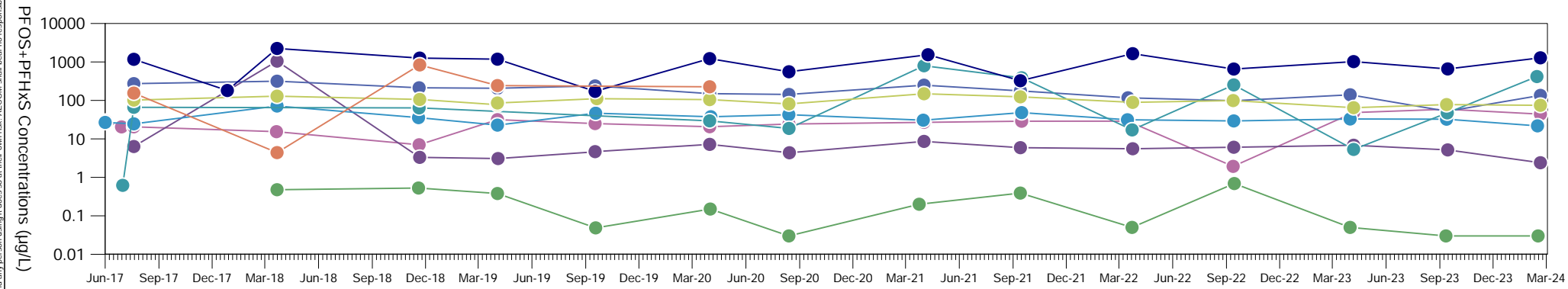
Plot
 2a to
 2c

Data sources: Department of Defence Esdat

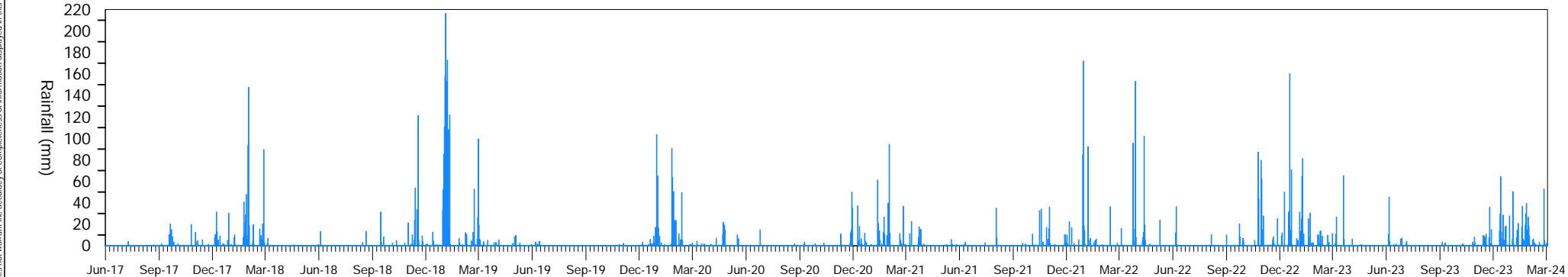
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 3a - PFOA (µg/L)



Plot 3b - PFOS+PFHxS (µg/L)



Plot 3c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024



LEGEND	
● MW009	● MW125
● MW038	● MW142
● MW043	● MW247
● MW114	● MW248
● MW249	■ Daily Rainfall
— PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)	

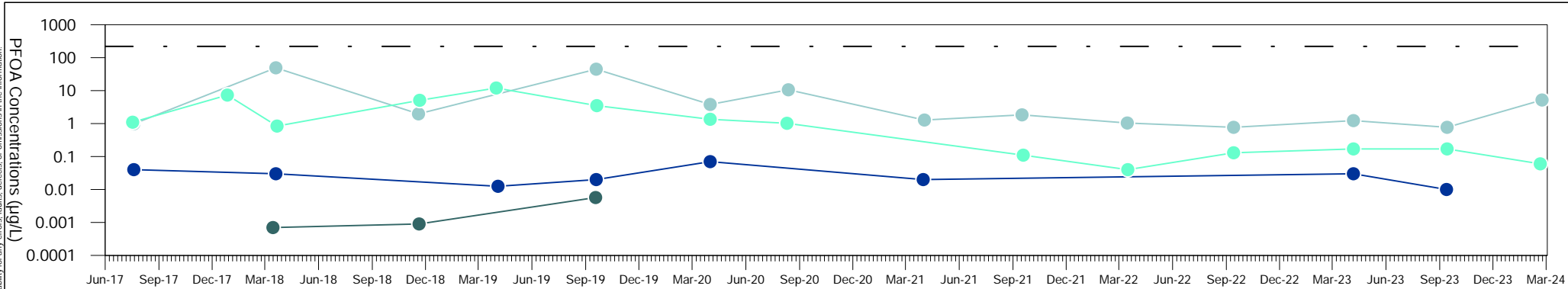
**PFOA and PFOS+PFHxS Concentrations
 Groundwater - Sub-Management Area 3**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

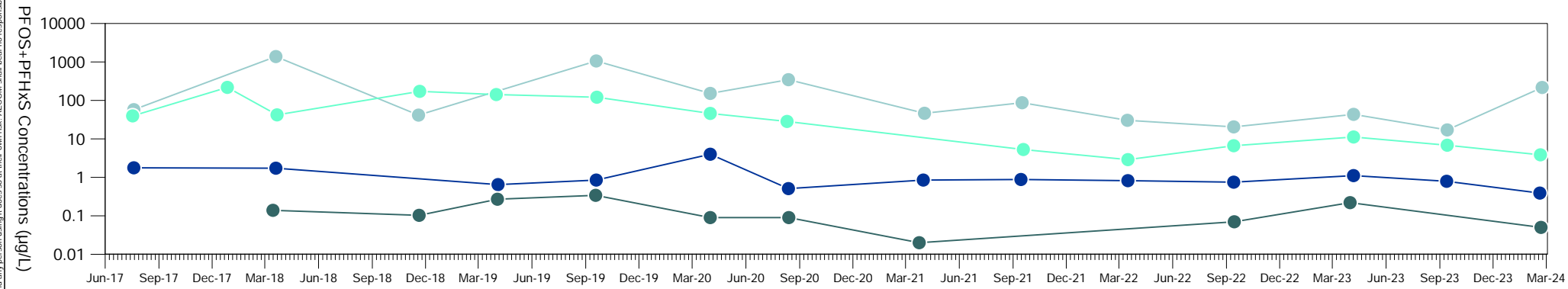
Plot
**3a to
 3c**

Data sources: Department of Defence Esdat

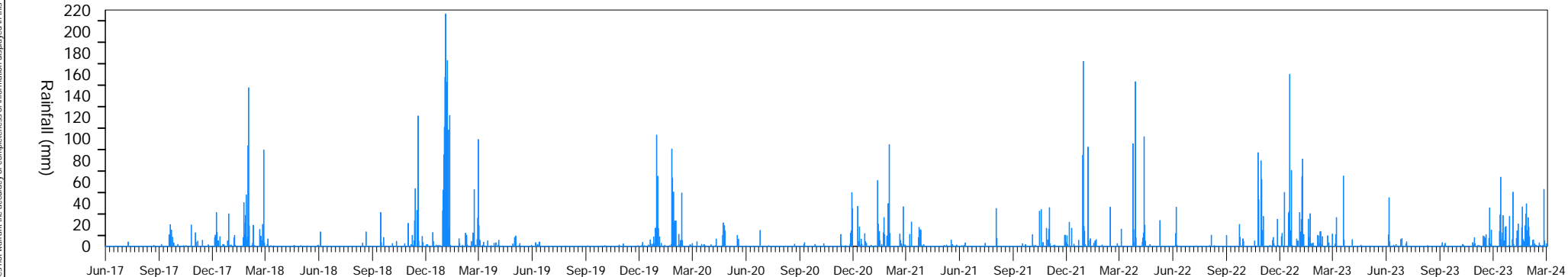
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility for any errors, omissions or liability in the information.



Plot 4a - PFOA (µg/L)



Plot 4b - PFOS+PFHxS (µg/L)



Plot 4c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024



www.aecom.com

LEGEND

- MW136
- MW243
- Daily Rainfall
- MW140
- MW244
- PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)

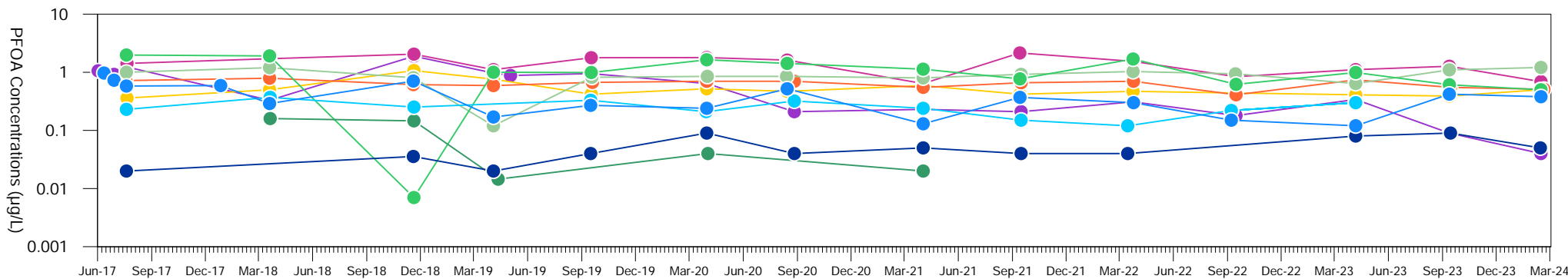
**PFOA and PFOS+PFHxS Concentrations
 Groundwater On-Base - Northern Section and
 Northwest of Runway 07/25**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

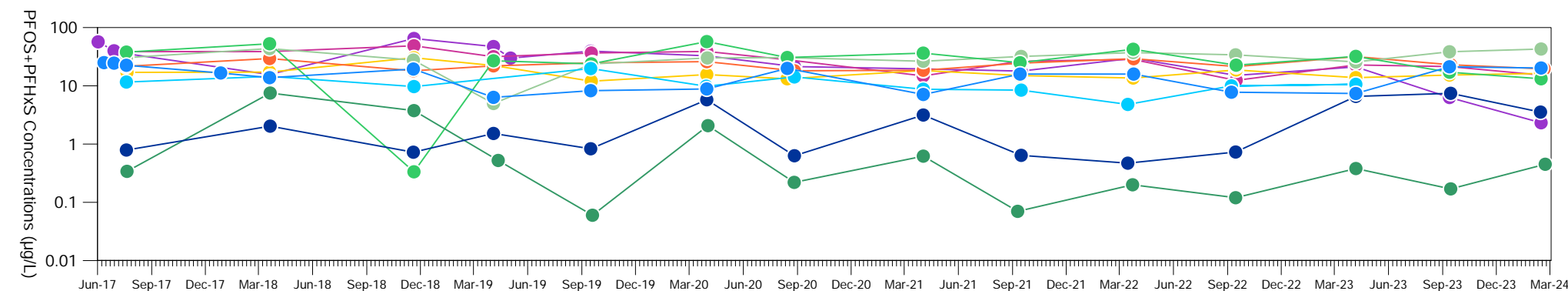
Plot
**4a to
 4c**

Data sources: Department of Defence Esdat

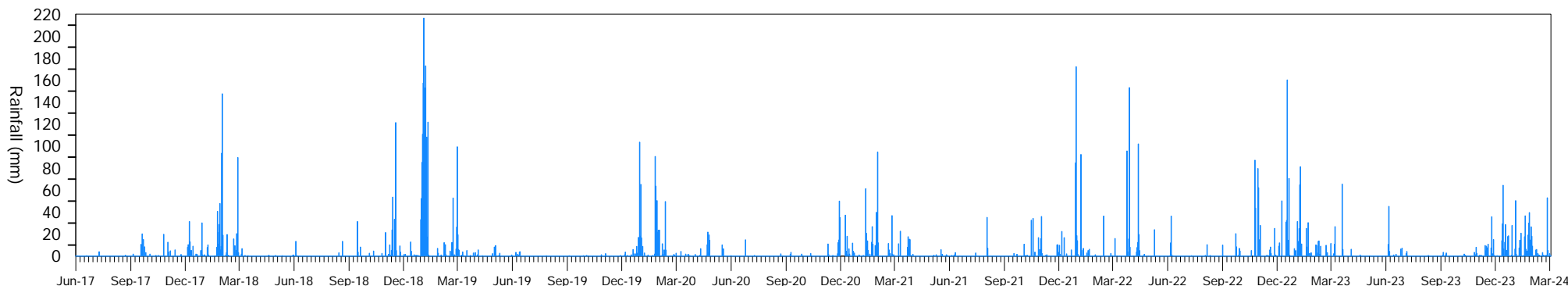
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 5a - PFOA (µg/L)



Plot 5b - PFOS+PFHxS (µg/L)



Plot 5c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024



LEGEND

- MW026
- MW033
- MW034
- MW061
- MW063
- MW120
- MW222
- MW223
- MW224
- MW232
- Daily Rainfall

- PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)

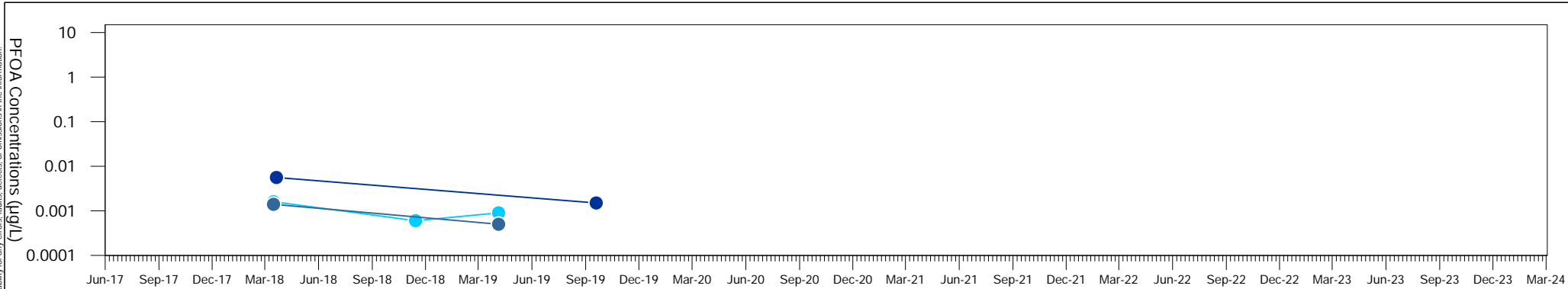
**PFOA and PFOS+PFHxS Concentrations
 Groundwater On-Base - East and Southeast
 of Sub-Management Area 1**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

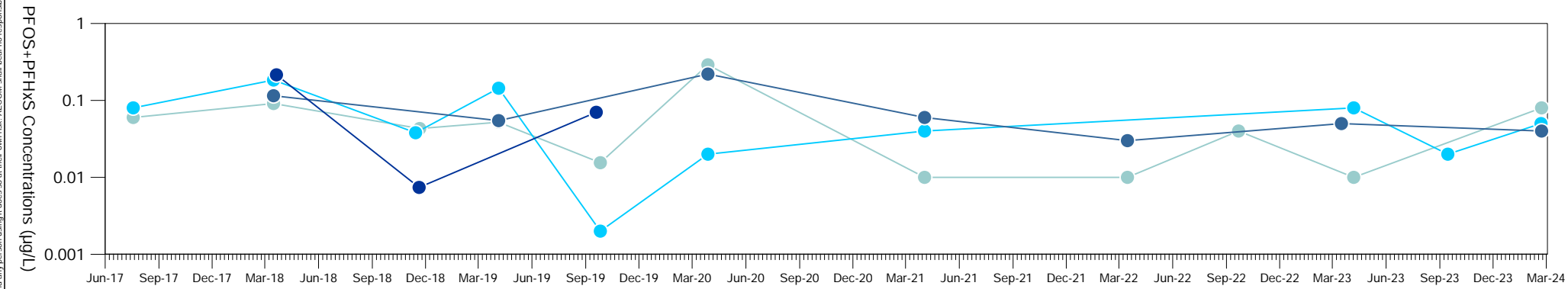
Plot
**5a to
 5c**

Data sources: Department of Defence Esdat

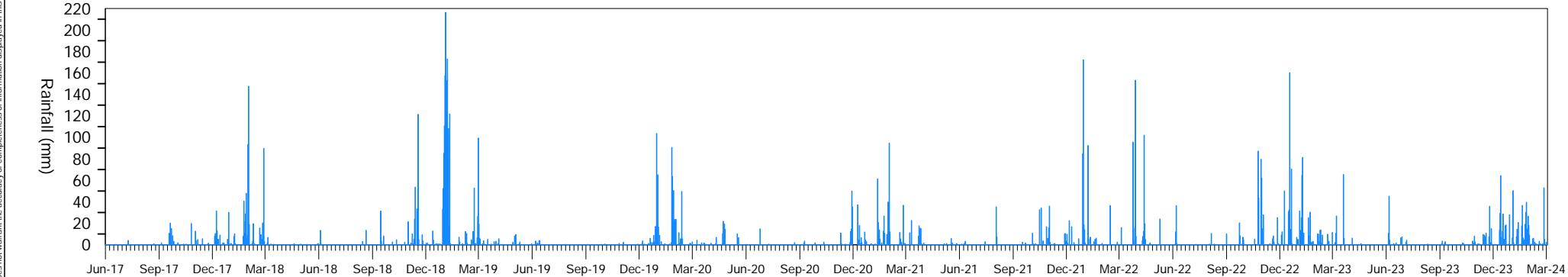
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using it does so at their own risk. AECOM shall bear no responsibility for any errors, faults, defects, or omissions in the information.



Plot 6a - PFOA (µg/L)



Plot 6b - PFOS+PFHxS (µg/L)



Plot 6c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024



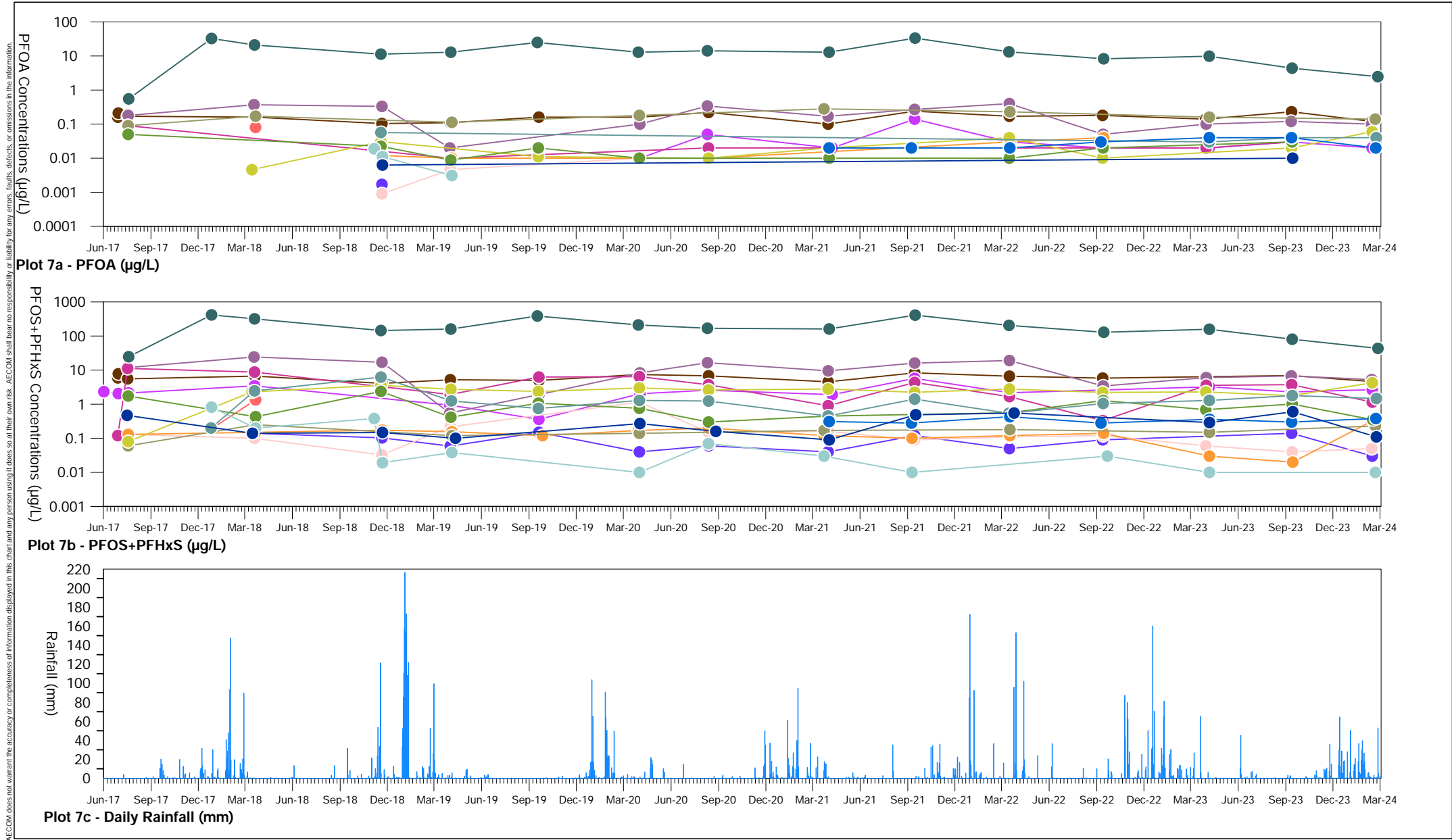
LEGEND

- MW226
- MW227
- MW228
- MW229
- Daily Rainfall
- PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)

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

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Plot
**6a to
 6c**



PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 30/04/2024

AECOM
 www.aecom.com

LEGEND	
● MW002	● MW135
● MW004	● MW230
● MW056	● MW234
● MW057	● MW235
● MW122	● MW241
● MW242	● MW255
● MW245	● MW265
● MW470	■ Daily Rainfall
— PFAS NEMP (2020) Ecological Guideline (PFOA: 220 µg/L)	

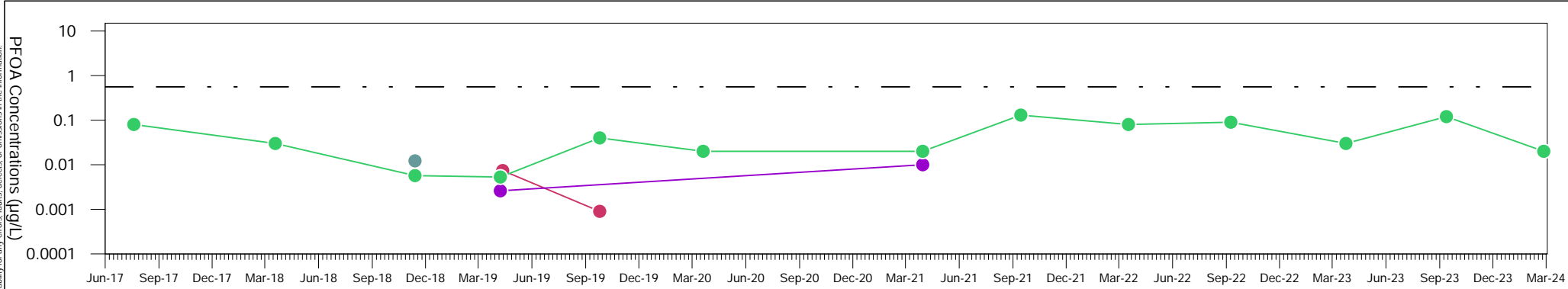
**PFOA and PFOS+PFHxS Concentrations
 Groundwater On-Base - Balance of Base Area**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

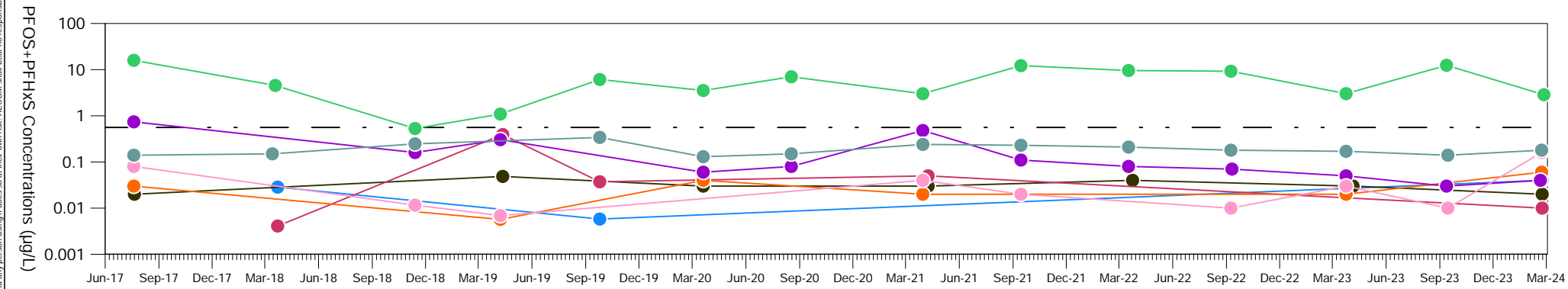
Plot
**7a to
7c**

Data sources: Department of Defence Esdat

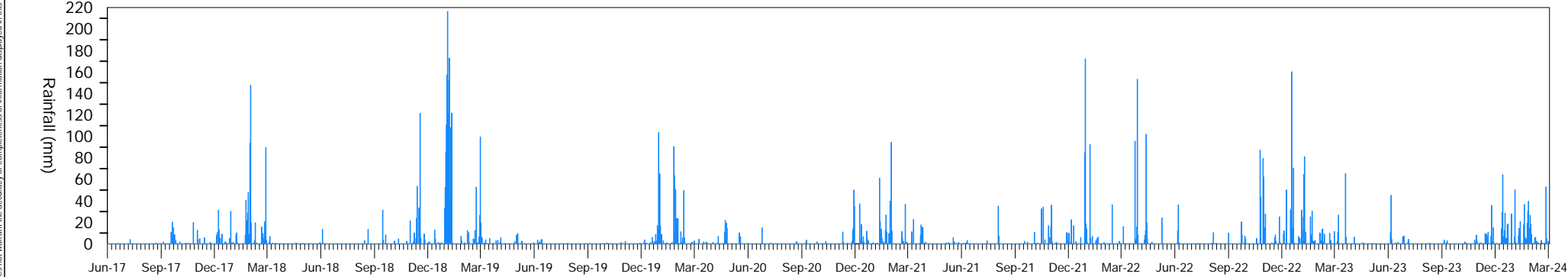
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 8a - PFOA (µg/L)



Plot 8b - PFOS+PFHxS (µg/L)



Plot 8c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

- MW201
- MW202
- MW203
- MW204
- MW205
- MW206
- MW207
- MW208
- Daily Rainfall

PFAS NEMP (2020) Drinking Water Guideline (PFOA: 0.56 µg/L, PFOS+PFHxS: 0.07 µg/L)

Data sources: Department of Defence Esdat

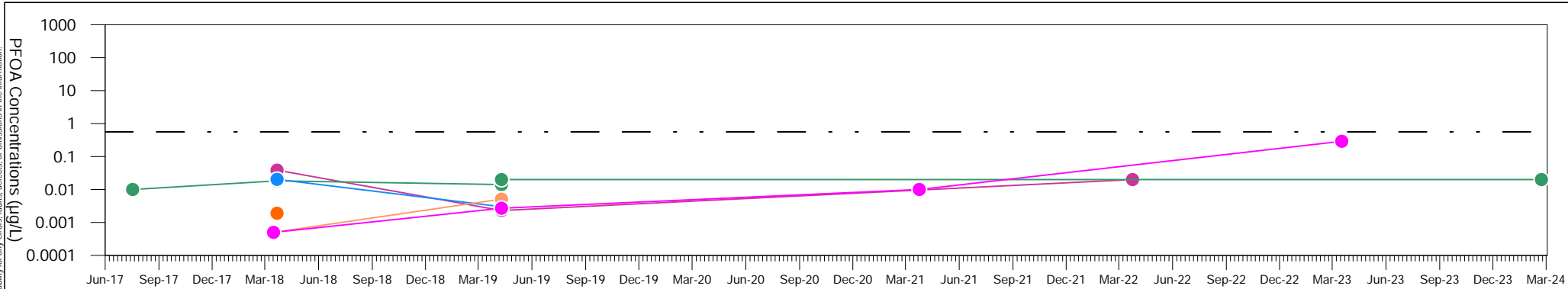
**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-base - Town Common
 Conservation Park**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

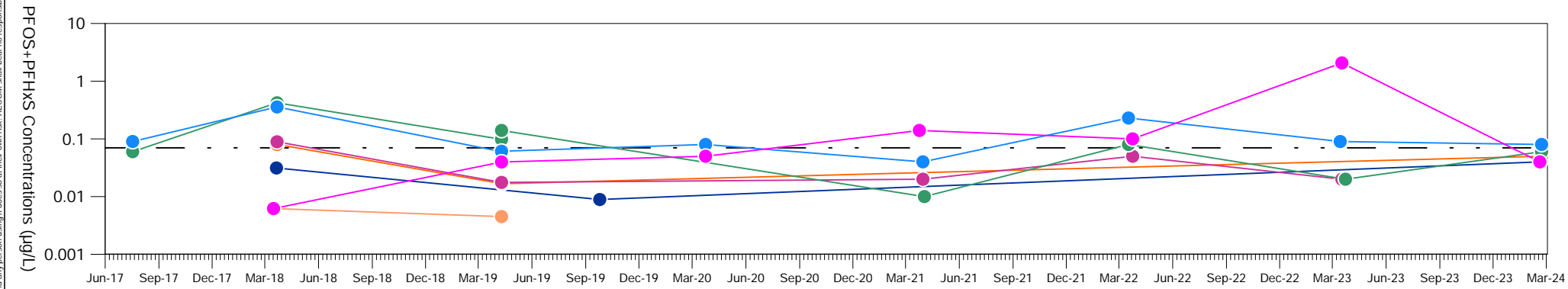
Plot

**8a to
 8c**

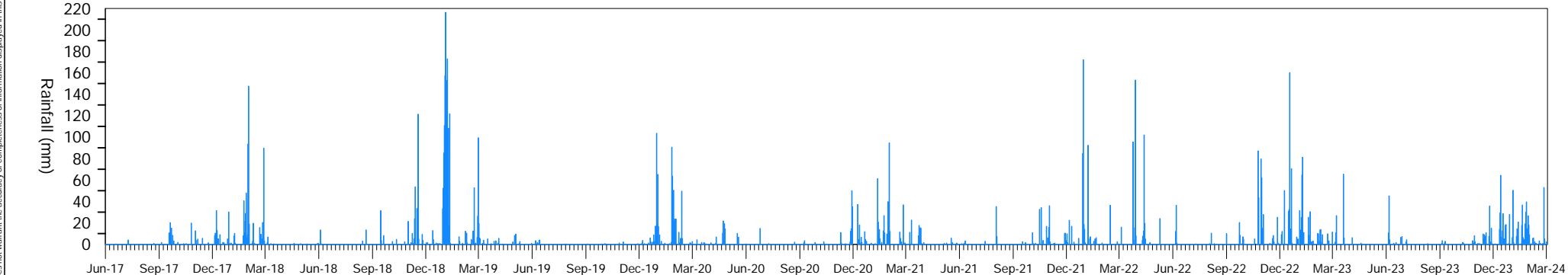
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 9a - PFOA (µg/L)



Plot 9b - PFOS+PFHxS (µg/L)



Plot 9c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

- MW231
- MW237
- MW238
- MW239
- MW240
- MW254
- MW262
- Daily Rainfall

PFAS NEMP (2020) Drinking Water Guideline (PFOA: 0.056 µg/L, PFOS+PFHxS: 0.07 µg/L)

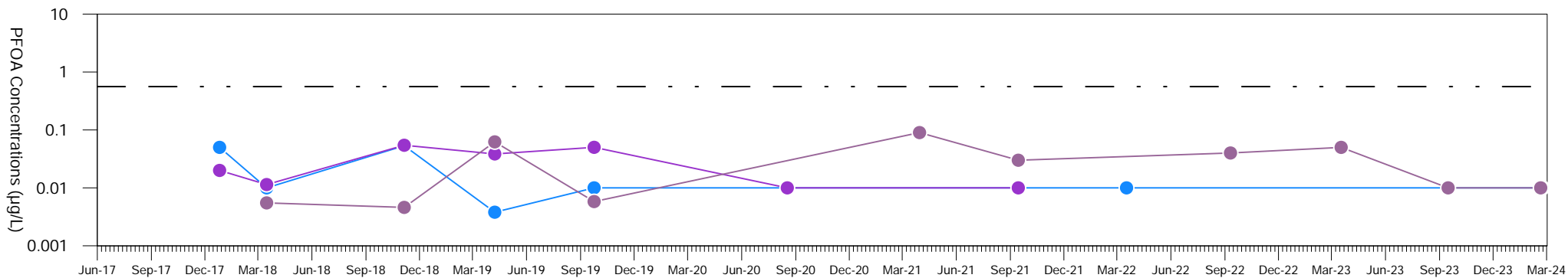
**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-Base - Bohle River and
 Bohle Industrial Estate**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

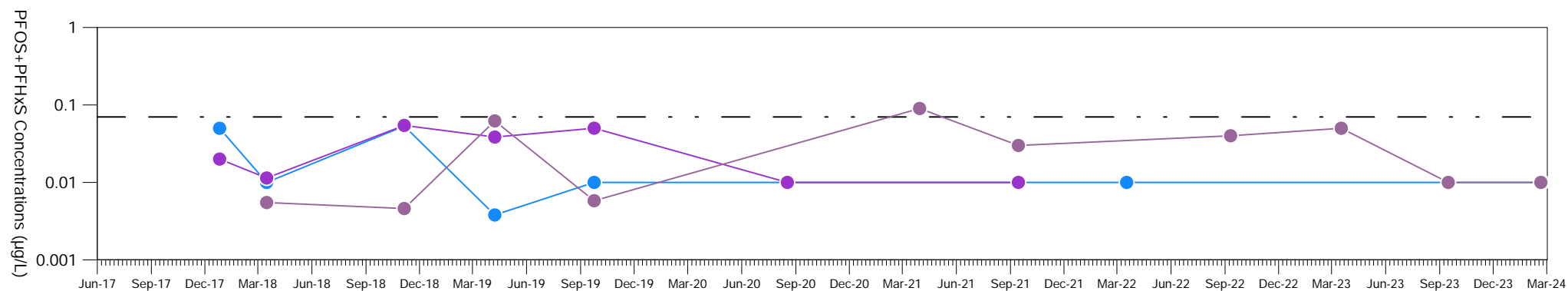
Plot
**9a to
 9c**

Data sources: Department of Defence Esdat

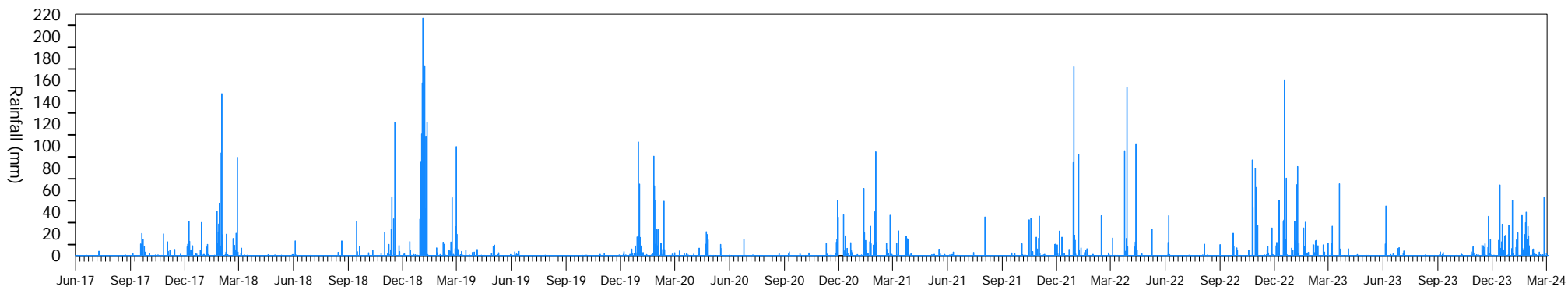
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person relying on it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 10a - PFOA (µg/L)



Plot 10b - PFOS+PFHxS (µg/L)



Plot 10c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

- MW233
- MW252
- MW253
- Daily Rainfall
- PFAS NEMP (2020) Drinking Water Guideline (PFOA: 0.56 µg/L, PFOS+PFHxS: 0.07 µg/L)

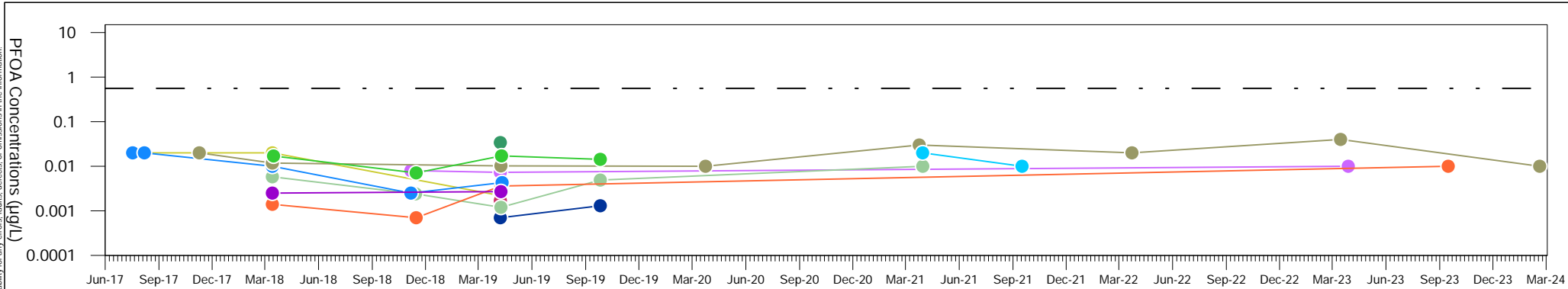
**PFOA and PFOS+PFHxS Concentrations
Groundwater Off-Base - Pallarenda**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

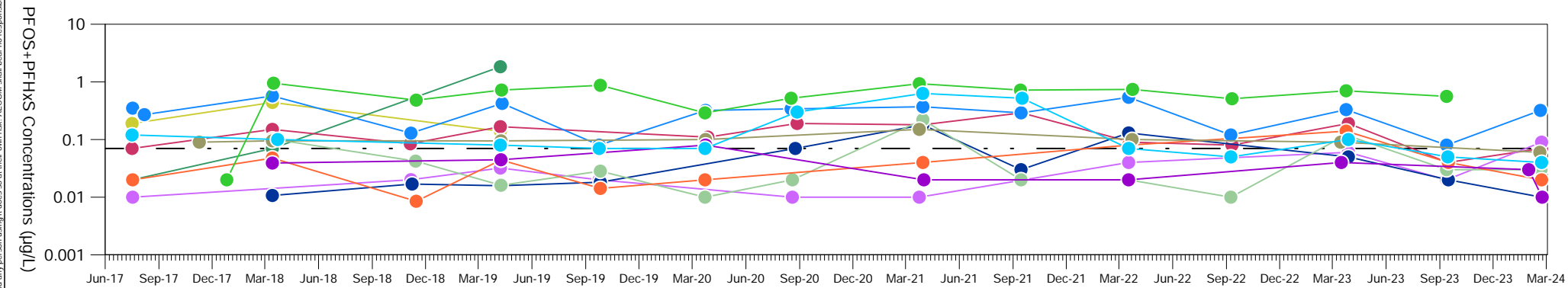
Plot
10a to
10c

Data sources: Department of Defence Esdat

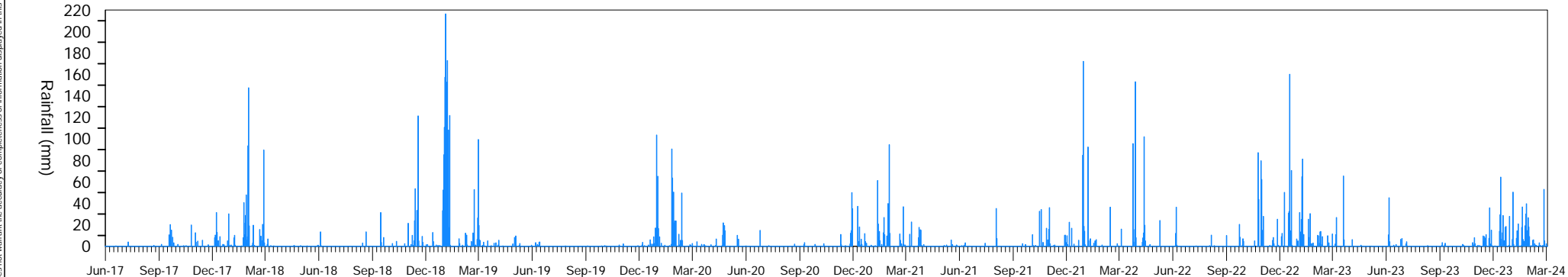
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using it does so at their own risk. AECOM shall bear no responsibility for any errors, faults, defects, or omissions in the information.



Plot 11a - PFOA (µg/L)



Plot 11b - PFOS+PFHxS (µg/L)



Plot 11c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

- MW209
- MW210
- MW211
- MW212
- MW213
- MW214
- MW215
- MW216
- MW256
- MW264
- Daily Rainfall
- PFAS NEMP (2020) Drinking Water Guideline
 (PFOA: 0.56 µg/L, PFOS+PFHxS: 0.07 µg/L)

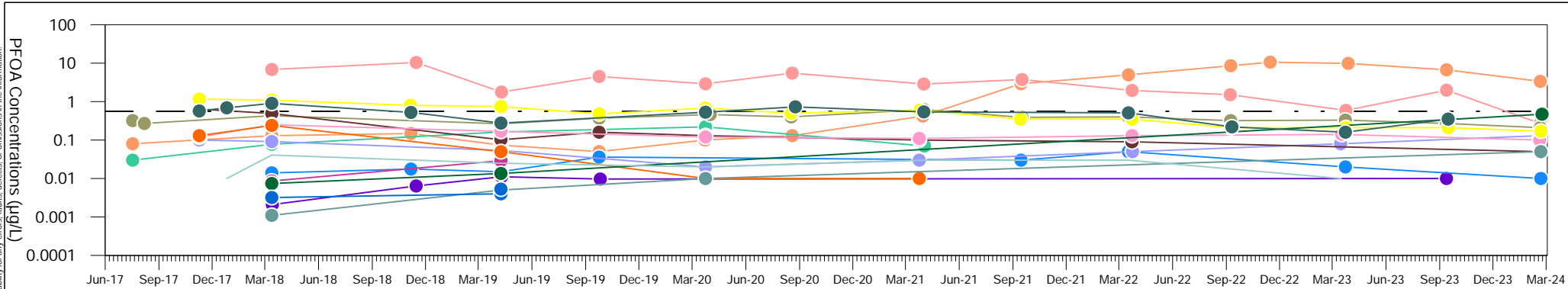
Data sources: Department of Defence Esdat

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

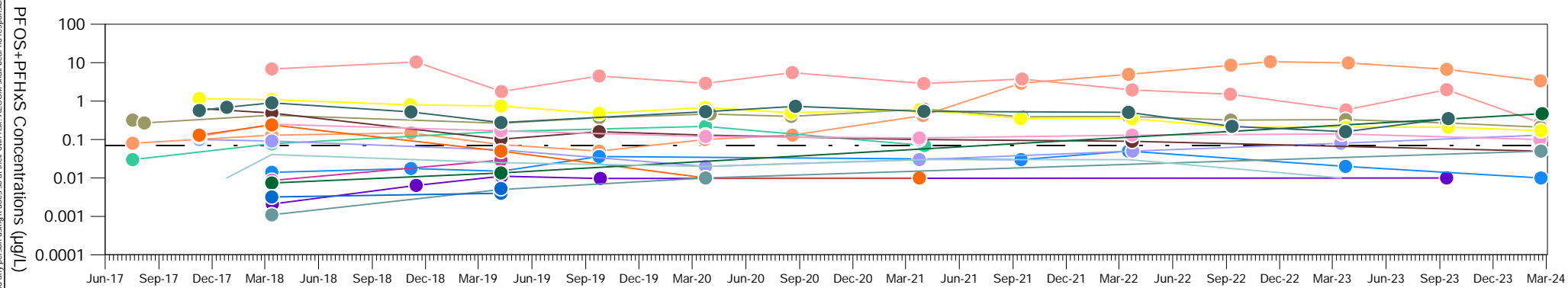
Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Plot
**11a to
 11c**

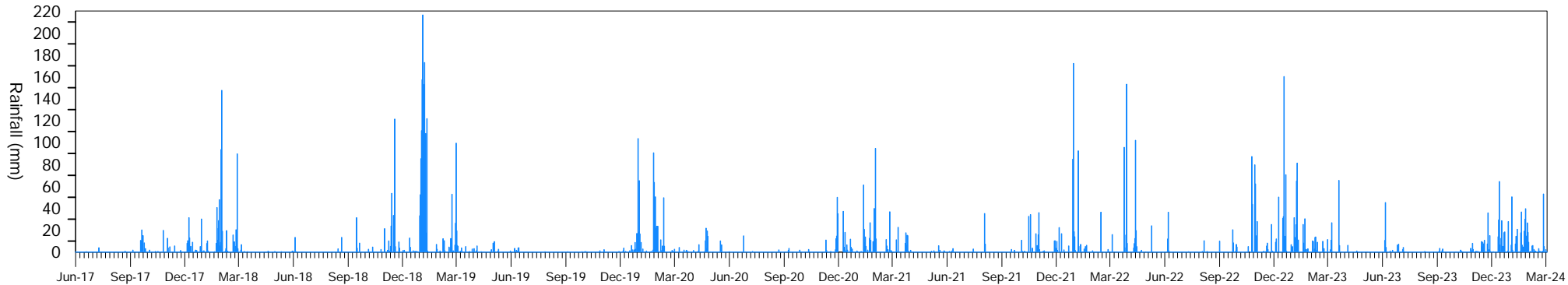
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 12a - PFOA (µg/L)



Plot 12b - PFOS+PFHxS (µg/L)



Plot 12c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

- MW217
- MW218
- MW219
- MW220
- MW221
- MW225
- MW236
- MW257
- MW258
- MW259
- MW260
- MW263
- MW266
- MW267
- MW268
- MW269
- MW270
- Daily Rainfall
- PFAS NEMP (2020) Drinking Water Guideline
 (PFOA: 0.56 µg/L, PFOS+PFHxS: 0.07 µg/L)

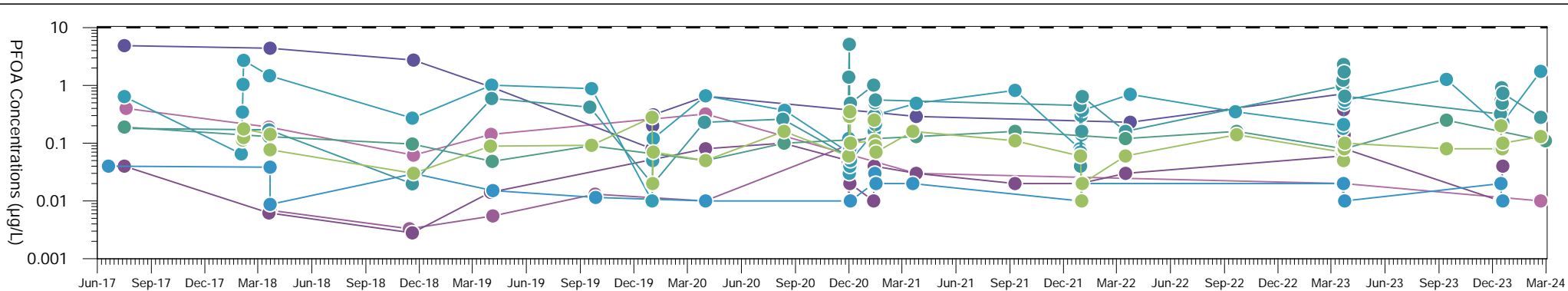
**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-Base - Garbutt**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

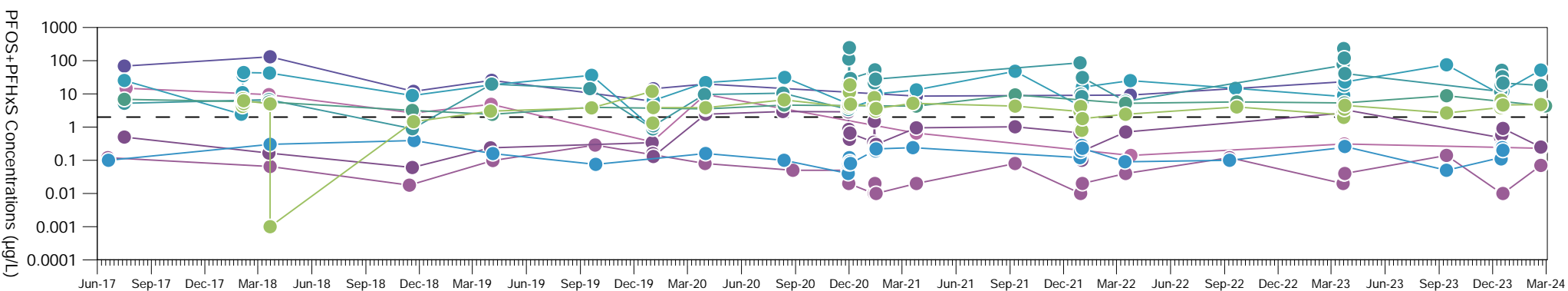
Plot
**12a to
 12c**

Data sources: Department of Defence Esdat

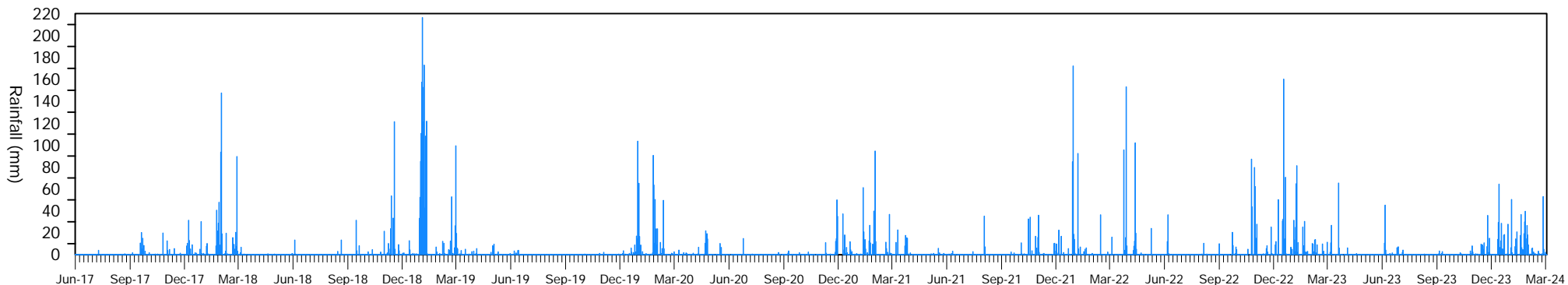
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using this chart shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 13a - PFOA (µg/L)



Plot 13b - PFOS+PFHxS (µg/L)



Plot 13c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

- SW013
- SW014
- SW016
- SW019
- SW112
- SW123
- SW125
- SW126
- SW131
- Daily Rainfall
- PFAS NEMP (2020) Recreational Guideline (PFOA: 10 µg/L, PFOS+PFHxS: 2 µg/L)

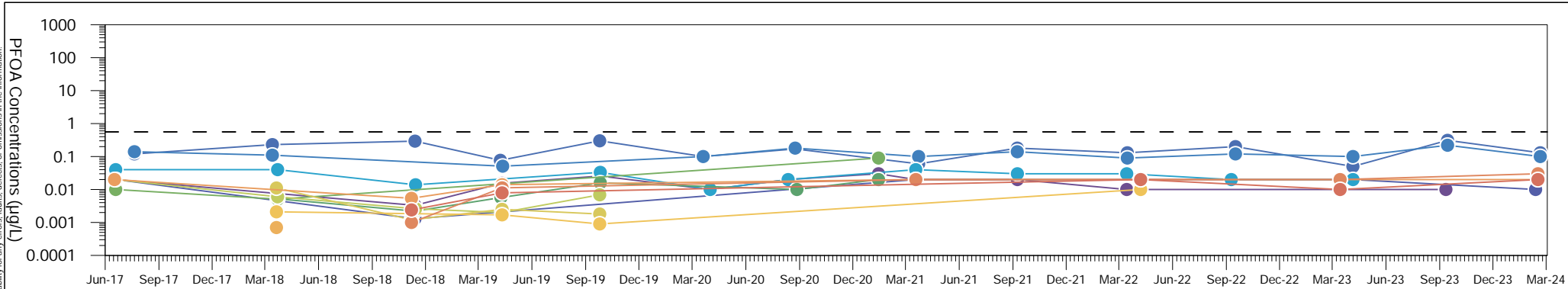
**PFOA and PFOS+PFHxS Concentrations
 Bohle River/Louisa Creek/Townsville Town
 Common Catchment - On-Base**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

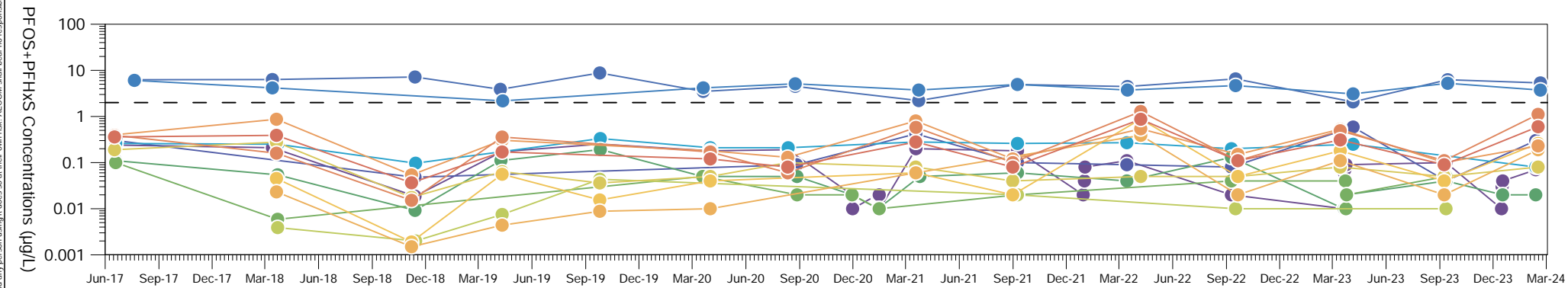
Plot
**13a to
 13c**

Data sources: Department of Defence Esdat

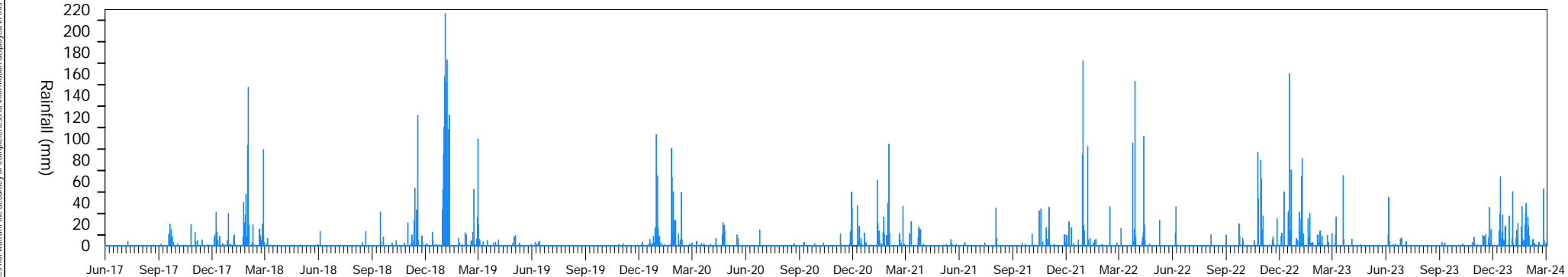
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility or liability for any errors, omissions or inaccuracies in the information.



Plot 14a - PFOA (µg/L)




Plot 14b - PFOS+PFHxS (µg/L)



Plot 14c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



www.aecom.com

LEGEND

SW017	SW129	SW205
SW021	SW201	SW206
SW110	SW202	SW207
SW111	SW203	Daily Rainfall
SW120	SW204	PFAS NEMP (2020) Recreational Guideline (PFOA: 10 µg/L, PFOS+PFHxS: 2 µg/L)
SW127		

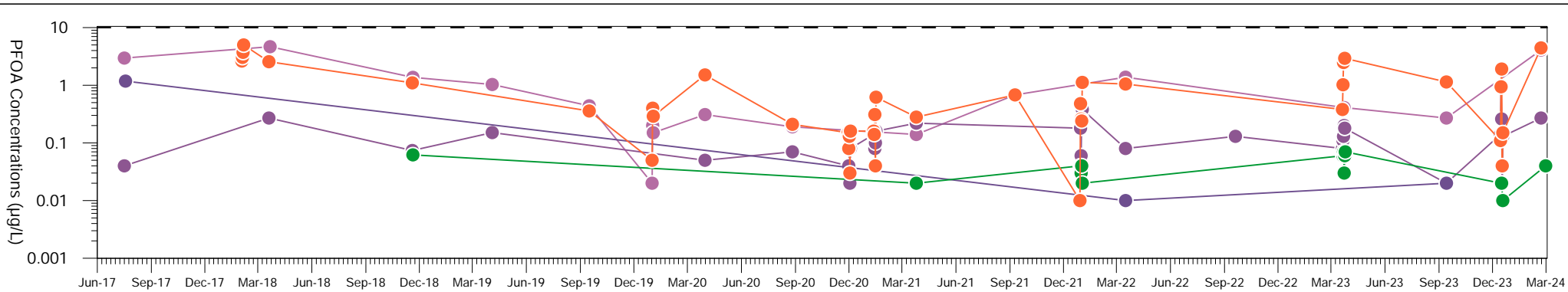
**PFOA and PFOS+PFHxS Concentrations
 Bohle River/Louisa Creek/Townsville Town
 Common Catchment - Off-Base**

Department of Defence
 Ongoing Monitoring Report
 June 2023 - March 2024
 PFAS OMP - RAAF Base Townsville

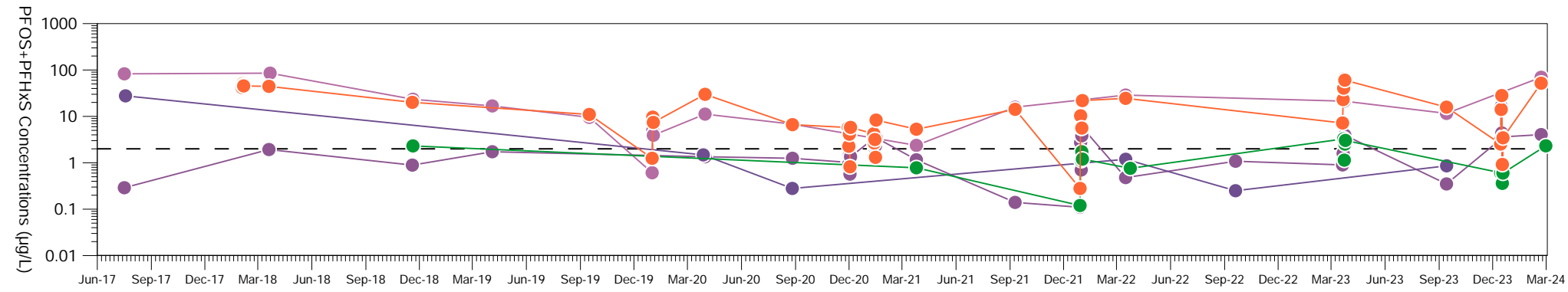
Plot
**14a to
 14c**

Data sources: Department of Defence Esdat

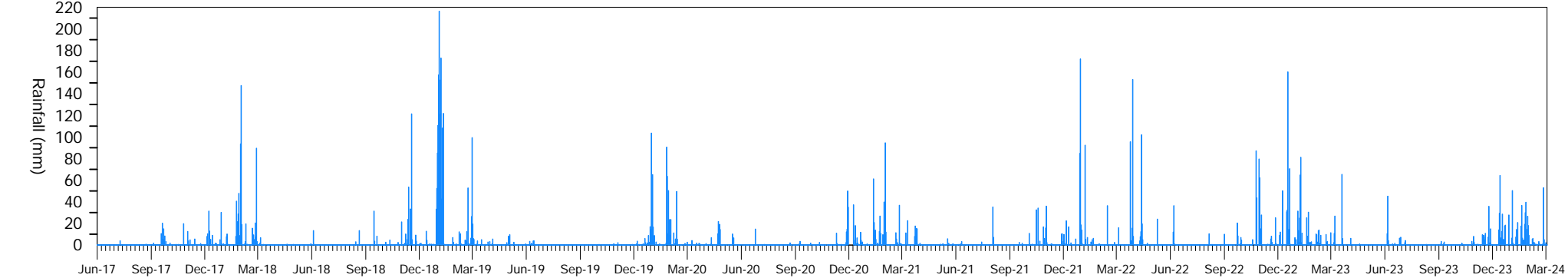
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person relying on it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 15a - PFOA (µg/L)



Plot 15b - PFOS+PFHxS (µg/L)



Plot 15c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

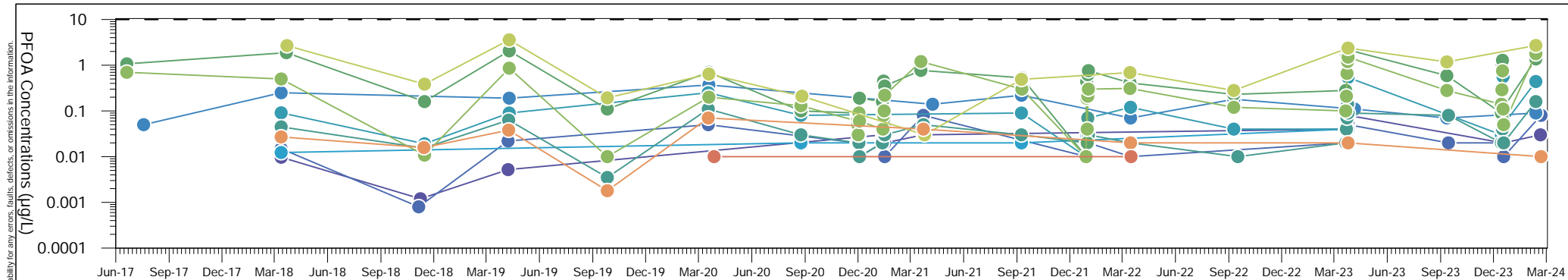
- SW001
- SW132
- SW010
- SW106
- SW121
- Daily Rainfall
- PFAS NEMP (2020) Recreational Guideline (PFOA: 10 µg/L, PFOS+PFHxS: 2 µg/L)

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

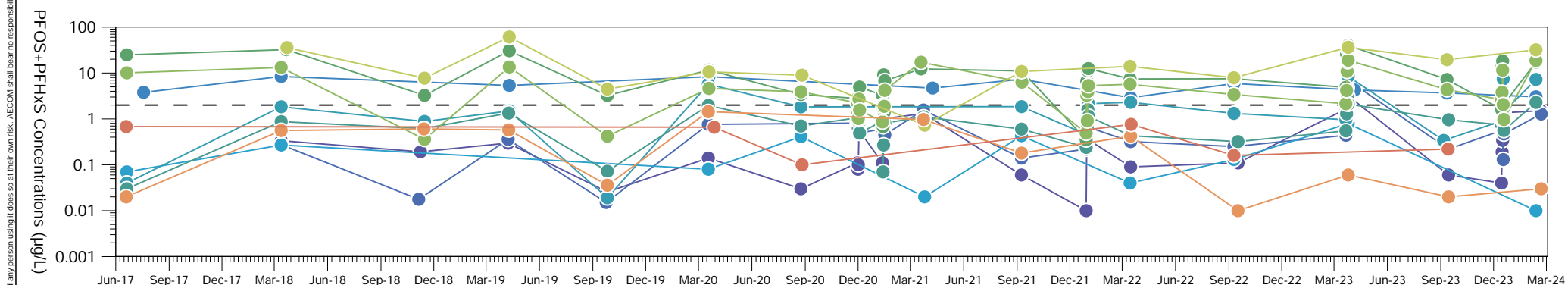
Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Plot
**15a to
 15c**

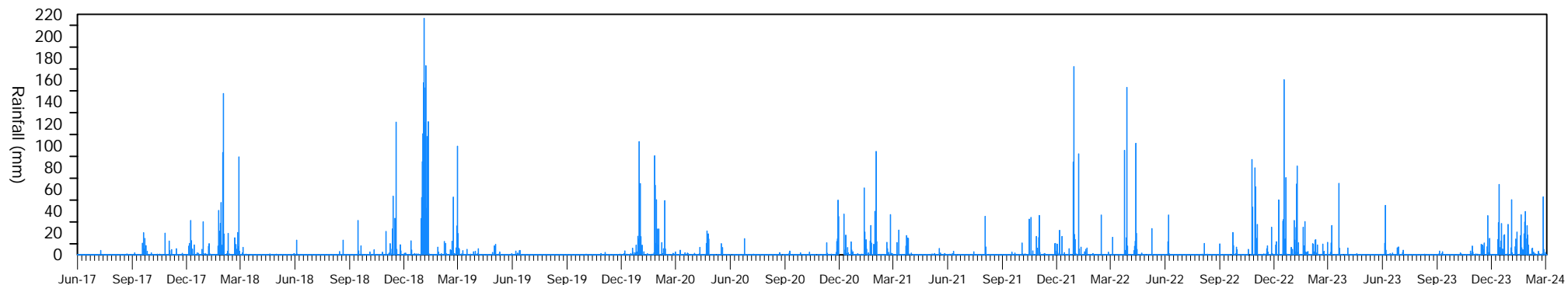
Data sources: Department of Defence Esdat



Plot 16a - PFOA (µg/L)



Plot 16b - PFOS+PFHxS (µg/L)



Plot 16c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



- LEGEND**
- SW108
 - SW109
 - SW113
 - SW114
 - SW115
 - SW116
 - SW117
 - SW118
 - SW119
 - SW208
 - SW209
 - Daily Rainfall
 - PFAS NEMP (2020) Recreational Guideline (PFOA: 10 µg/L, PFOS+PFHxS: 20 µg/L)

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

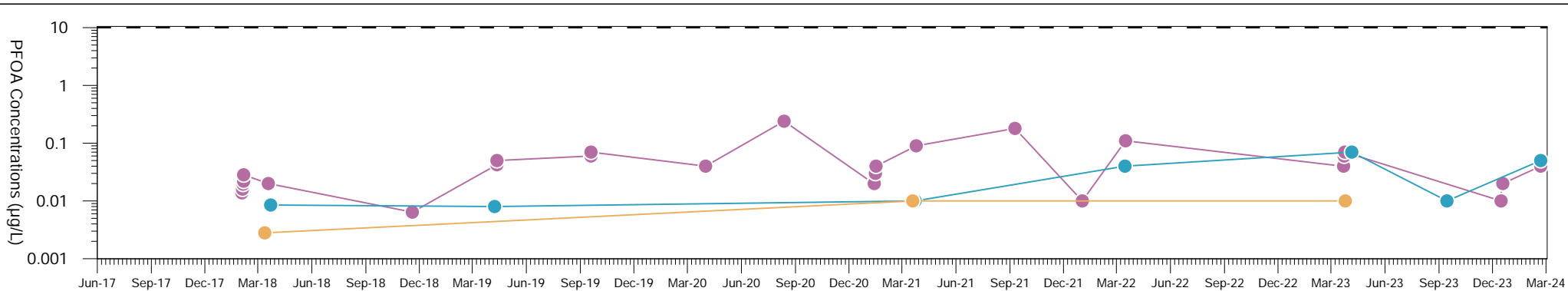
Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Plot
**16a to
 16c**

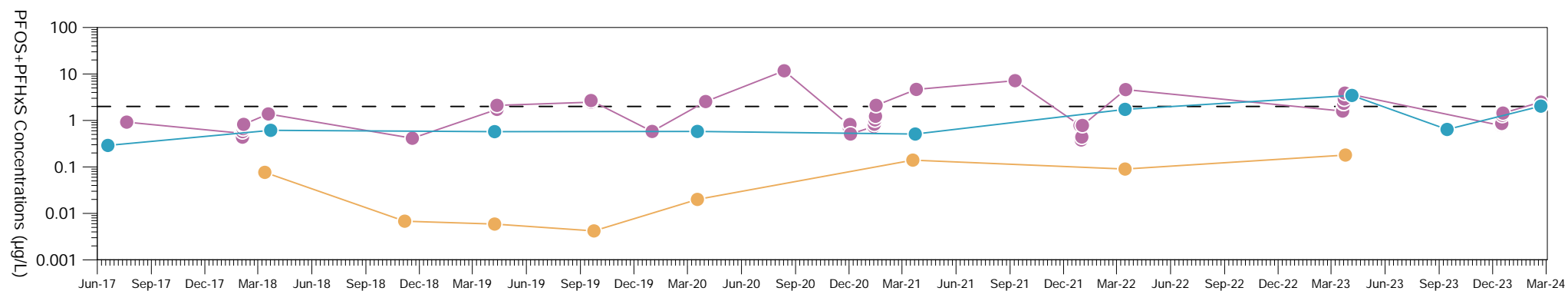
Data sources: Department of Defence Esdat

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

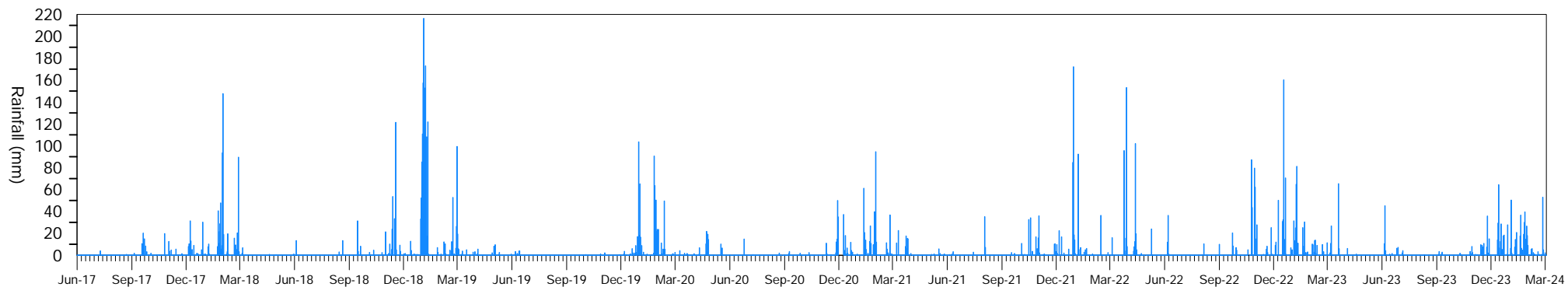
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 17a - PFOA (µg/L)



Plot 17b - PFOS+PFHxS (µg/L)



Plot 17c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

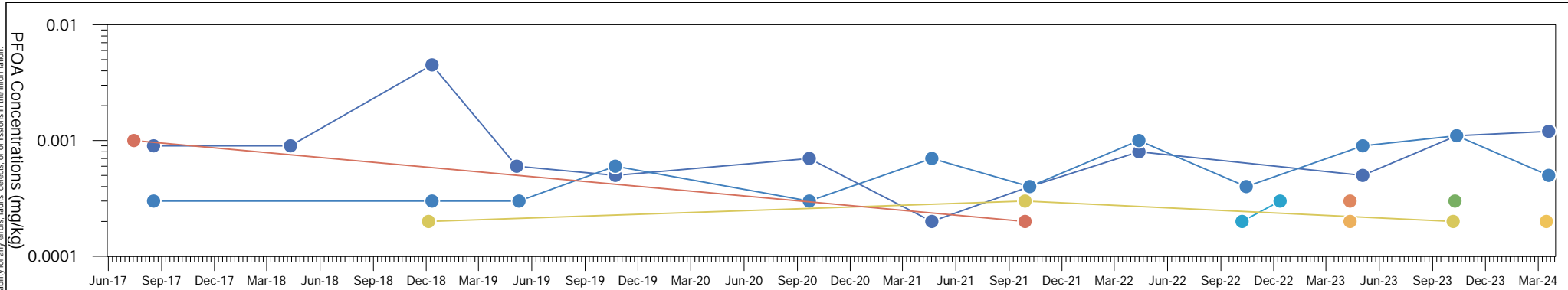
- SW102
- SW107
- SW210
- Daily Rainfall
- PFAS NEMP (2020) Recreational Guideline (PFOA: 10 µg/L, PFOS+PFHxS: 2 µg/L)

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

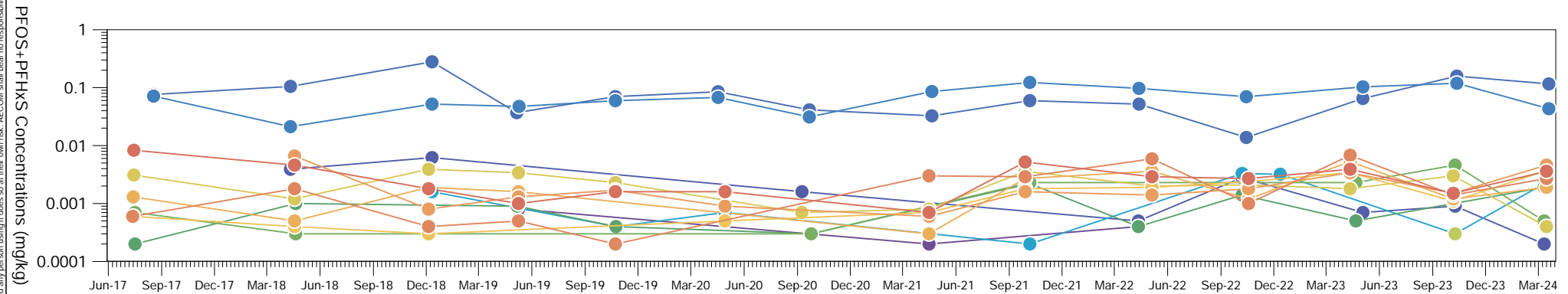
Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Plot
**17a to
 17c**

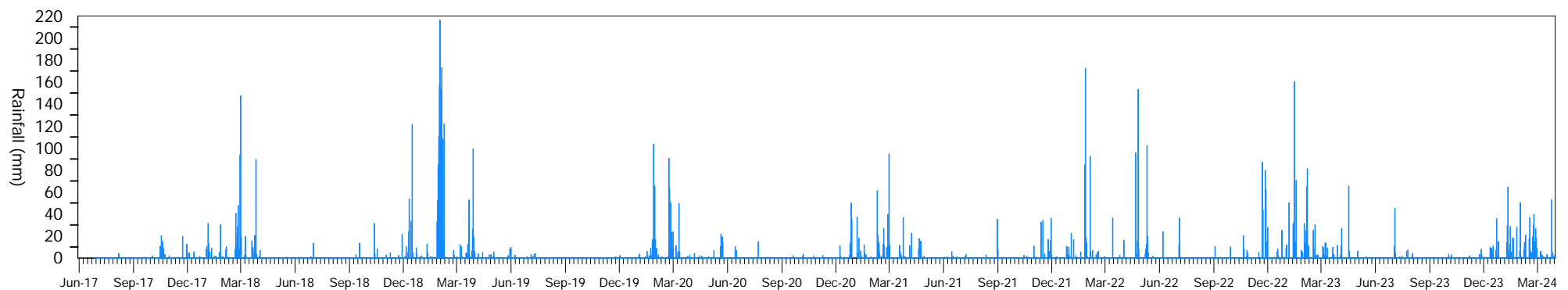
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any other charts or tables on this report. AECOM shall not be held responsible for any errors, omissions, or misstatements in the information displayed in this chart and any other charts or tables on this report.



Plot 19a - PFOA (mg/kg)



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



Plot 19c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



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

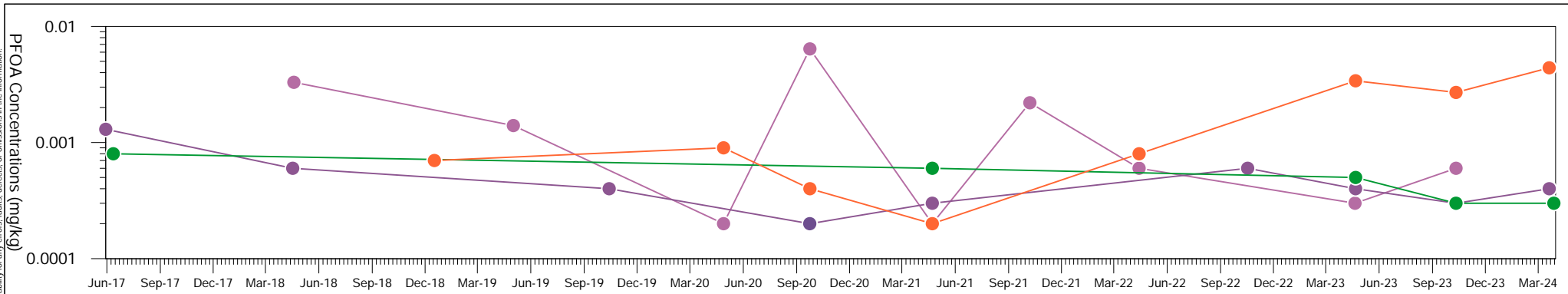
**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Bohle River/Louisa Creek/Townsville Town
 Common Catchment - Off-Base**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

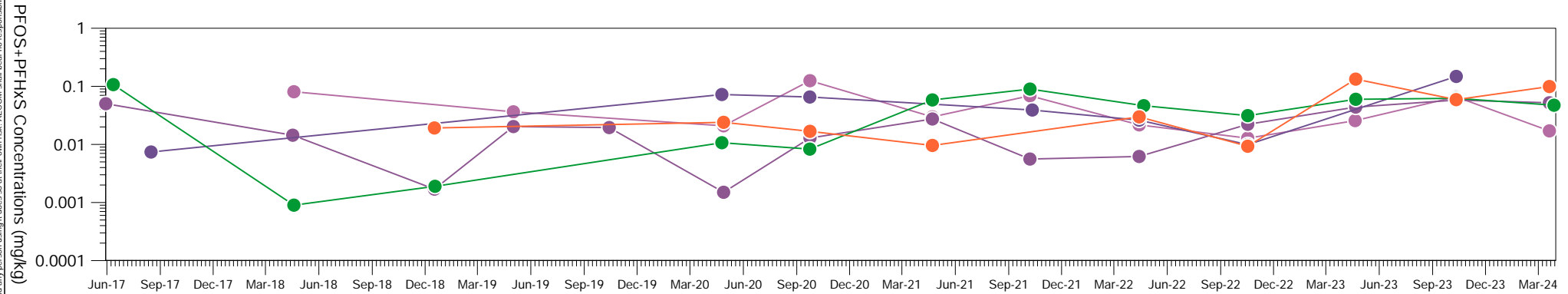
Plot
 19a to
 19c

Data sources: Department of Defence Esdat

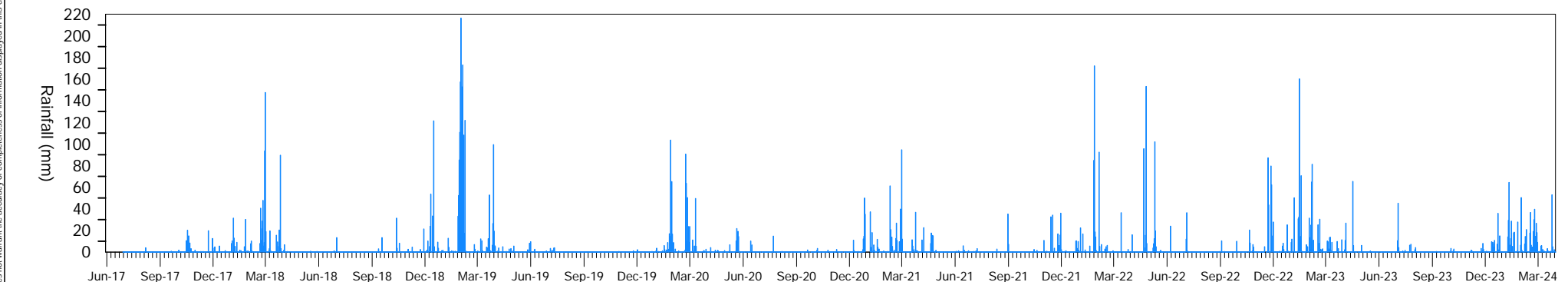
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any reliance on such information is at the user's own risk. AECOM shall not be liable for any errors, omissions, or misstatements in the information displayed in this chart.



Plot 20a - PFOA (mg/kg)



Plot 20b - PFOS+PFHxS (mg/kg)



Plot 20c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

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

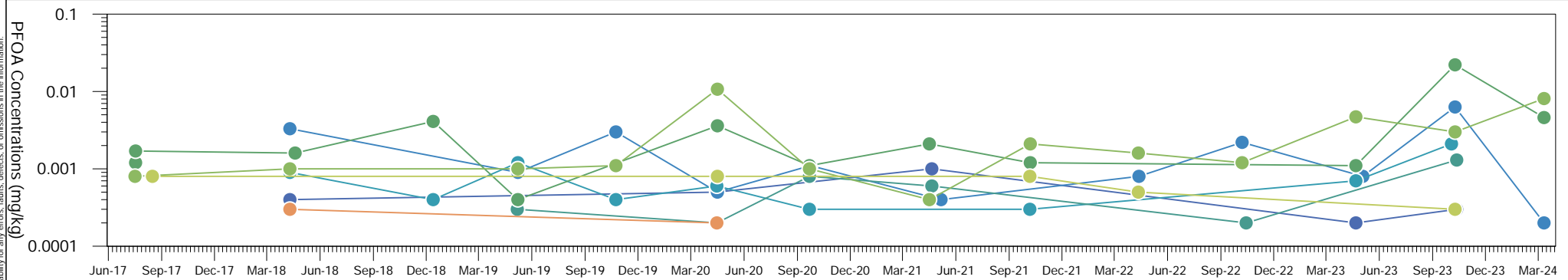
**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Mundy Creek Catchment - On-Base**

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

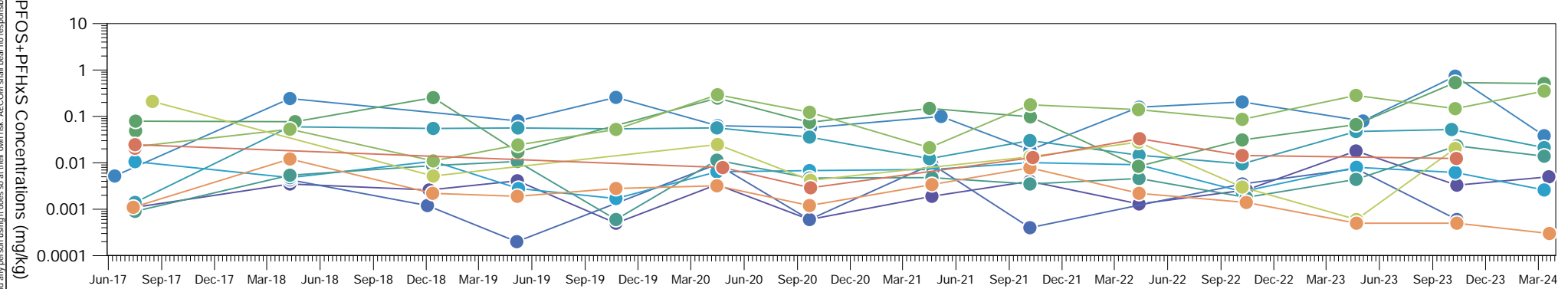
Plot
 20a to
 20c

Data sources: Department of Defence Esdat

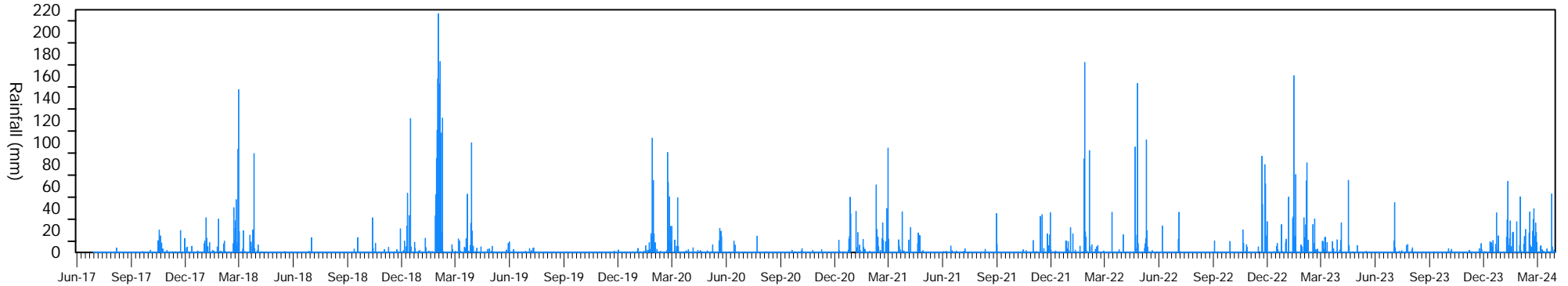
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any other charts or tables appearing on this report. AECOM shall not be liable for any errors, omissions, or misstatements in the information provided.



Plot 21a - PFOA (mg/kg)



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



Plot 21c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 2/05/2024



LEGEND

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

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

Department of Defence
 Ongoing Monitoring Report
 (June 2023 - March 2024)
 PFAS OMP - RAAF Base Townsville

Plot
 21a to
 21c

Data sources: Department of Defence Esdat

Appendix D

Sampling Analysis and Quality Plan

PFAS OMP RAAF Base Townsville

Sampling and Analysis Quality Plan

27-Feb-2024
PFAS Ongoing Monitoring Plan
Doc No. 60612487_RP30_20240227_11
Commercial-in-Confidence

PFAS OMP RAAF Base Townsville

Sampling and Analysis Quality Plan

Client: Department of Defence - Environmental and Engineering Branch, PFAS Investigation and Management Branch (PFASIMB)

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

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

27 February 2024

Job No.: 60612487

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

Quality Information

Document PFAS OMP RAAF Base Townsville – Sampling and Analysis Quality Plan
 Ref 60612487_RP30_20240227_11
 Date 27 February 2024
 Prepared by [Redacted]
 Reviewed by [Redacted]
 Verifier/s [Redacted]

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
A	23-Mar-2020	Draft for Review	[Redacted] Associate Director - Environment	
0	26-Mar-2020	Draft for Review	[Redacted] Associate Director - Environment	
1	12-Feb-2021	For Defence Review	[Redacted] Project Manager	
2	29-Mar-2021	Revised for Issue	[Redacted] Project Manager	Original previously signed
3	20-Apr-2021	Revised for Issue	[Redacted] Project Manager	Original previously signed
4	06-Oct-2021	Revised for Issue	[Redacted] Project Manager	Original previously signed
5	02-Feb-2022	For Defence Review	[Redacted] Project Manager	Original previously signed
6	06-Apr-2022	Revised for Issue	[Redacted] Project Manager	Original previously signed
7	28-Sep-2022	Revised for Issue	[Redacted] Project Manager	Original previously signed
8	17-Mar-2023	Revised for Issue	[Redacted] Project Manager	Original previously signed
9	05-Apr-2023	Revised for Issue	[Redacted] Project Manager	Original previously signed
10	15-Aug-2023	Revised for Issue	[Redacted] Project Manager	Original previously signed
11	27-Feb-2024	Revised for Issue	[Redacted] Project Manager	Original previously signed

Table of Contents

1.0	Introduction	1
1.1	Preamble	1
1.2	SAQP Objectives	1
1.3	Scope of Works	1
1.4	Previous Investigations	2
1.5	Guidelines and Legislation	2
2.0	Site Setting and Conceptual Site Model	3
2.1	Site Description	3
2.2	Site Setting	3
2.3	Conceptual Site Model	5
3.0	Data Quality Assessment	7
3.1	Data Quality Objectives	7
3.1.1	Step 1 – State the Problem	7
3.1.2	Step 2 – Identify the Goal of the Study	7
3.1.3	Step 3 – Identify Information Inputs	8
3.1.4	Step 4 – Define the Boundaries of the Study	8
3.1.5	Step 5 – Develop the Analytical Approach	9
3.1.6	Step 6 – Specify Performance or Acceptance Criteria	9
3.1.7	Step 7 – Optimise the Design for Obtaining Data	10
3.2	Assessment of Data Quality	10
4.0	Sampling Location Rationale and Methodology	12
4.1	OMP	12
4.2	Proposed Schedule	12
4.2.1	Sampling Events	12
4.3	Sample Location Rationale	12
4.3.1	Groundwater Sampling Locations Rationale	12
4.3.2	Groundwater Gauging Locations	14
4.3.3	Groundwater Sampling Locations	14
4.3.4	Sediment Sampling Locations Rationale	16
4.3.5	Sediment Sampling Locations	16
4.3.6	Surface Water Sampling Locations Rationale	17
4.3.7	Surface Water Sampling Locations	17
4.4	Sample Collection and Handling	18
4.4.1	Groundwater Sampling	18
4.4.2	Surface Water Sampling	19
4.4.3	Sediment Sampling	19
4.4.4	Laboratory Analysis and Quality Assurance/Quality Control Sampling	19
4.4.5	Sample Handling and Transport to Laboratory	20
4.5	Calibration	20
4.6	Logistics	20
4.7	Analytical Suite and Laboratory Analysis Methods	20
4.7.1	Laboratory NATA Accreditation Details	20
4.7.2	Analytical Schedule	21
4.8	Sample Nomenclature	22
4.9	Defence Esdat Requirements	22
4.10	Adopted Screening Criteria	22
4.11	Waste Management	23
4.12	Quality Assurance/Quality Control Sampling	23
4.12.1	Field Duplicate and Inter-laboratory Duplicate Samples	23
4.12.2	Rinsate Samples	23
4.12.3	Trip Blank Samples	24
4.13	Fieldwork Documentation	24
4.13.1	Field Notes	24
4.13.2	Sample Labels	24
4.13.3	Chain of Custody Forms	24

	4.13.4	Sampling Documentation	25
4.14		Reporting	25
	4.14.1	Sampling Event Factual Report	25
	4.14.2	Ongoing Monitoring Report	26
4.15		Deviation from OMP	26
5.0		References	28
Appendix A			
		Figures	A
Appendix B			
		RAAF Base Townsville Management Area	B
Appendix C			
		Well Construction Details	C

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 program at RAAF Base Townsville (the “Base”) and the RAAF Base Townsville Management Area in the North Queensland Region, as defined in the *PFAS Management Area Plan (PMAP)* (Defence, 2019).

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

The purpose of the OMP is to collect data to enable Defence to maintain an up to date understanding of the distribution, concentration and transport (migration pathways and flow) of PFAS at the Base and the RAAF Base Townsville Management Area. The data will assist in the timely identification of risks and inform Department of Defence’s (Defence) approach to the management of PFAS, including updates and revisions to the PMAP. Deviations from the OMP are noted in **Table 23, Section 4.15**.

1.2 SAQP Objectives

The objectives of this SAQP are to:

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

1.3 Scope of Works

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

- Annual comprehensive post-wet season sampling event in April 2020, April 2021, April 2022, April 2023 and April 2024 including:
 - Groundwater gauging of 28 selected monitoring wells;
 - Groundwater sampling of 105 monitoring wells;
 - Surface water sampling at 41 locations (provided water is present), co-located with 41 sediment sampling locations.
- Targeted post-dry season sampling event in October 2020, October 2021, October 2022 and October 2023 including:
 - Groundwater gauging of 28 monitoring wells;
 - Groundwater sampling of 80 monitoring wells; and
 - Surface water sampling at 41 locations (provided water is present), co-located with 41 sediment sampling locations.
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of 5 days, limited to one event per calendar year.
- Preparation of reports including a sampling event factual report (following each biannual or high rainfall sampling event) and ongoing monitoring reports following the completion of each 12-month sampling period.

1.4 Previous Investigations

A list of relevant published documents is provided below:

- GHD Australia Pty Ltd (GHD) (2016). Defence per- and poly-fluoroalkyl Substances (PFAS) Environmental Management Preliminary Sampling Program RAAF Base Townsville. September
- WSP Australia Pty Limited (WSP) (2018a). RAAF Base Townsville Detailed Site Investigation – PFAS. May
- WSP (2018b). RAAF Base Townsville Human Health Risk Assessment (HHRA). October
- Defence (2019). PFAS Management Area Plan – RAAF Townsville.
- WSP (2019a). RAAF Townsville - Seasonal Monitoring Report 1 – PFAS. December
- WSP (2019b). RAAF Townsville - Seasonal Monitoring Report 2 – PFAS. December
- WSP (2019c). RAAF Townsville – Ecological Risk Assessment (ERA). December
- AECOM (2021d). Annual Interpretive Report 2020, PFAS OMP - RAAF Base Townsville. June
- AECOM (2023d). Ongoing Monitoring Interpretive Report (OMIR) (December 2020 – May 2023), RAAF Base Townsville. October

1.5 Guidelines and Legislation

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

- PFAS National Environmental Management Plan (NEMP) 2.0, Heads of Environmental Protection Agencies (HEPA), 2020.
- National Environment Protection (Assessment of Site Contamination) Measure (NEPM), National Environment Protection Council (NEPC), 2013.
- Commonwealth of Australia Department of Defence, Routine Environment Water Quality Monitoring Manual, 2018.
- Commonwealth of Australia Department of Defence, Contamination Management Manual (DCMM), 2018 amended June 2021.
- Department of Health (DoH), Health Based Guidance Values for PFAS for use in site investigations in Australia, September 2019.
- National Health and Medical Research Council (NHMRC), Guidance on PFAS in Recreational Water. August 2019.
- Standards Australia 1998, reconfirmed in 2016. 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 (Water and Wetland Biodiversity) Policy 2019.

2.0 Site Setting and Conceptual Site Model

2.1 Site Description

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

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

Table 1 Sub-Management Areas on Base

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

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

2.2 Site Setting

A summary of the Base site setting is provided below.

Table 2 Site Identification and Setting Summary (as taken from OMIR (December 2020 – May 2023) (AECOM, 2023d)

Element	Description
Base ID	RAAF Base Townsville, 0874
Location	The base is located in Garbutt, a suburb of Townsville, Queensland. Entry to the base is off Ingham Road, Garbutt, approximately five kilometres (km) from Townsville City.
Regional climate	The regional climate of Townsville is classified as tropical; however, rainfall is typically lower than other locations on the coast of North Queensland. The wet season, from approximately October to April is associated with hot and humid conditions with periods of heavy rain. The dry season is associated with dry, warm days and cool nights from approximately May to September. The OMP sampling events have been designed to target the end of the wet and dry seasons.

Element	Description
Topography, geology, and hydrogeology	<p>The base and surrounds are generally flat and low lying and are associated with the Bohle River and Townsville Town Common Conservation Park wetlands systems, which are subject to flooding and tidal inundation. The base has an elevation of between 2 and 5 metres Australian Height Datum (mAHD). The elevation decreases towards to north and northwest, reaching sea level in the Townsville Town Common Conservation Park and at Pallarenda and Rowes Bay beaches.</p> <p>The general underlying geology is Quaternary-aged alluvium comprising clay, silt, sand, and gravel. The surface geology is presented in the Detailed Site Investigation (DSI) Report (WSP, 2018a).</p> <p>The geology is varied across the Monitoring Area; however, in general it is described as Pleistocene, quartzose, fluvial sands and gravels deposited by the Ross/Bohle River systems, overlain by shallow marine and estuarine clays, which in turn are overlain by coastal plain sediment comprising silts, clays, and minor sands. The underlying basement of Townsville is described as Julago Volcanic, comprising rhyolite to andesitic lava tuff, volcanic breccia, agglomerate with some conglomerate, sandstone, siltstone, shale, and coal seams.</p> <p>There are three rocky outcrops in the region: Many Peaks Range to the north, Mount Louisa to the southwest and Castle Hill to the east.</p> <p>Three aquifers have been identified at the base (WSP, 2018a), summarised as:</p> <ol style="list-style-type: none"> 1. A shallow unconfined sand aquifer hosted in the coastal sand dunes of Cleveland Bay, Rowes Bay and Pallarenda, with a maximum depth of 6.5 metres below ground level (mbgl); overlying 2. A shallow, semi-confined aquifer comprised of interbedded clays, silts and sands forming a connected aquifer across the base, with depths between 8 mbgl (on-base) and 11 mbgl (within Garbutt), overlying 3. A deeper, semi-confined aquifer located in sands and gravels associated with paleo-channels at depths between 15 and 40 mbgl. <p>Inferred groundwater flow directions derived during the DSI (WSP, 2018a) and the Seasonal Monitoring Reports (WSP, 2019a; WSP, 2019b) indicated groundwater flows in a north to northeast direction across the Monitoring Area towards the Townsville Town Common Conservation Park and Rowes Bay. A piezometric high point extends from Garbutt across the southeast corner of the base to north area of the base, potentially due to a higher rate of surface water infiltration in this area. Groundwater flow is partially radial around this area towards the west, northwest, northeast and east.</p>
Surface Water and drainage	<p>The base has three main surface water catchments: the Bohle River drainage sub-basin including Bohle River/Louisa Creek/Town Common catchment, Three Mile Creek and Mundy Creek (also referred to as Captain's Creek). The monitoring network targets these catchments, both on-base and off-base.</p> <p>The three main drainage channels which flow into the base are Louisa Creek, Peewee Creek and Mount St John Drain, all of which have catchments within the urbanised suburbs to the south and east. Peewee Creek is a small watercourse that flows into Louisa Creek. Louisa Creek drains to the Townsville Town Common Conservation Park to the north of the base. Drainage to the west enters the base through the Mount St John Drain, which is separated from Louisa Creek by an elevated ridge line. The primary flow path of the drain is north, away from the base.</p> <p>On-base, a network of drains primarily direct surface water towards the northwest towards the Louisa Creek floodplain, Townsville Town Common Conservation Park and the Bohle Estuary. Surface water from the southeast corner of the base is directed to the east and then north into Mundy Creek catchment and ultimately Rowes Bay. The ordnance loading aprons and Runway 01/19, drain towards the northern boundary into the palustrine wetlands located adjacent to Rowes Bay Golf Club and</p>

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

2.3 Conceptual Site Model

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

The OMIR (AECOM, 2023d) noted that the ongoing monitoring program monitoring over the last 3 years had provided additional data to further understand the nature and extent of PFAS concentrations in groundwater, surface water and sediment. Comparison to the available historical dataset indicates that the extent of PFAS in groundwater and surface water is similar to the extent assessed in the CSM, developed in the DSI (WSP, 2018a). Some fluctuation in the concentrations of individual PFAS compounds at individual monitoring locations is occurring, but the PFAS transport mechanisms and

extent of the plume is consistent with that presented in the DSI (WSP, 2018a). The one groundwater monitoring well with PFAS concentrations orders of magnitude outside of historical range (MW021) is within a previously defined source area and as such, the exposure scenario is covered by the existing CSM.

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

The data presented in this report do not change the understanding of the CSM. Future monitoring will continue to contribute to an evaluation of any potential changes to the CSM understanding. **Table 3** summarises a simplified CSM presented in the PMAP (Defence, 2019).

Table 3 Simplified Conceptual Site Model

PFAS Sources	Pathways	Receptors
<p><u>Source areas to Louisa Creek Catchment (i.e. The Common):</u></p> <ul style="list-style-type: none"> • Fire Station NQ0055 • Fire Training Area NQ0107 • Fuel Farm 2 NQ0099 • 5 AVN <p><u>Source areas to Mundy Creek Catchment:</u></p> <ul style="list-style-type: none"> • Former Fire Training Area NQ0054 <p><u>Source areas to Three Mile Creek Catchment:</u></p> <ul style="list-style-type: none"> • Negligible and not applicable to this PMAP 	<ul style="list-style-type: none"> • Direct contact with PFAS impacted soil in an on-Base sub-grade maintenance trench. • Surface water runoff and stormwater discharges to on-Base drains, and surrounding wetlands and creeks. PFAS may also sorb onto soils and sediments within surface water drains and creeks. • The lateral migration of PFAS in surface waters off-Base. PFAS is then available for uptake via aquatic and terrestrial biota and transferred through the food web. 	<p><u>Human Health:</u></p> <ul style="list-style-type: none"> • On-base sub-grade maintenance workers where no strategies are engaged to reduce exposure to PFAS impacted soil (e.g. PPE, personnel hygiene, etc.). <p><u>Ecological:</u></p> <ul style="list-style-type: none"> • Aquatic invertebrates, amphibians and fish in impacted waters in source areas. • Aquatic invertebrates, amphibians and fish in Louisa Creek and Mundy Creek Catchments. • Semi-terrestrial and terrestrial invertebrates, reptiles, amphibians, birds and mammals that consume aquatic organisms from Louisa Creek and Mundy Creek Catchments.

3.0 Data Quality Assessment

3.1 Data Quality Objectives

The amended NEPM, (2013) Schedule B2 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), (2006) *Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4: EPA/240/B-06/001)*.

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 4 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 requires 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 and associated risk, 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 and Monitoring 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 and Monitoring Area;
- Understand if the nature, extent and magnitude of PFAS concentrations have changed significantly to warrant a revision to the human health and environmental risk assessments; and
- Understand if the nature, extent and magnitude of PFAS concentrations have changed significantly to warrant refinement of any existing management measures.

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

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

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:

- Physical setting of the Base;
- PFAS results from previous investigations;
- Meteorological data including rainfall;
- Field observations;
- Groundwater, sediment and surface water data collected and analysed for PFAS to assess the distribution and extent of PFAS, as part of this SAQP;
- Groundwater and surface water elevation data;
- Fate and transport mechanisms and behaviour of PFAS in the environment;
- Screening criteria (refer **Section 4.10**);
- Statistical analysis to identify trends; and
- Advances in laboratory analytical approaches and changes in regulatory requirements; and
- Recommendations made in the preceding reports completed by AECOM (AECOM, 2020; AECOM, 2021a; AECOM, 2021b; AECOM, 2021c; AECOM, 2021d; AECOM, 2021e; AECOM, 2021f; AECOM, 2022a; AECOM, 2022b; AECOM, 2022c; AECOM, 2023a; AECOM, 2023b; AECOM, 2023c; AECOM, 2023d; AECOM, 2023e).

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

The SAQP will also cover the primary implementation period of the OMP (Defence, 2019). The SAQP will also cover 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 limit of reporting (LOR) in the various media to be analysed. Standard LORs will be used for the OMP Implementation which are appropriate for meeting the adopted screening criteria.
- 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 is required.
- If the PFAS is reported at a concentration that is consistently above the adopted screening criteria, then it will be considered that further assessment is required.
- 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 three 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. **Table 5** provides further specific details.

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 Base. 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.
- 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 detection 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. LOR may be increased for saline samples due to matrix interference for higher salinity samples.
 - Laboratories to report quality assurance/ quality control data for comparison with the DQIs established for the SAQP. **Table 5** provides acceptance criteria.

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:
 - Defence (2018 amended June 2021), DCMM.
 - 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; and
- Progressive review of the data throughout the bi-annual 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 5**.

Table 5 Acceptance Criteria for Data Quality Indicators for Sample Analysis

Data Quality Indicators	Acceptance Criteria
Water and Sediment Samples	
Rinsates (where equipment is decontaminated and reused)	Less than the laboratory LOR.
Field duplicates/Inter-lab duplicates	<p>The Relative Percentage Differences (RPDs) will be assessed as acceptable if less than or equal to 30% as per the NEPM Schedule B3. Where the results show 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:</p> <ul style="list-style-type: none"> • 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.
Trip blanks and field blanks (one per batch)	Less than the laboratory LOR.
Laboratory duplicates	<p>RPDs less than:</p> <ul style="list-style-type: none"> • 20% for high level laboratory duplicates (i.e. >20x LOR); and • 50% for medium level laboratory duplicates (i.e. 10 to 20x 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. The scope of works presented in this SAQP is consistent with that detailed in the OMP (Defence, 2019).

4.2 Proposed Schedule

4.2.1 Sampling Events

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

The proposed schedule of fieldworks is presented in **Table 6** below. Further revision of the SAQP sampling schedule and requirements will be undertaken based on the OMP review, proposed to be completed by mid-2023.

Table 6 Proposed Fieldwork Schedule

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

4.3 Sample Location Rationale

4.3.1 Groundwater Sampling Locations Rationale

There are 105 groundwater monitoring wells identified for ongoing monitoring. These monitoring wells are located across the Base, Townsville City Council (TCC) controlled roadways and public spaces, and within the protected Townsville Town Common and Rowes Bay Wetlands. Permission to work in TCC roadways is managed under a Traffic Management Plan with a permit obtained from the Council for this purpose. Notification to the Department of Environment and Science (DES) is required for access to the Town Common and to obtain the key to the area from Queensland Parks and Wildlife Services. No formal permits are required for collection of environmental samples under this SAQP.

The rationale for monitoring well selection for each area is summarised in **Table 7**.

Table 7 Rationale for Groundwater Monitoring Locations

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

4.3.2 Groundwater Gauging Locations

Locations specified in **Table 8** are proposed to be gauged prior to each sampling event and presented in **Figure 1** in **Appendix A**.

Following review of the OMIR (AECOM, 2023d), the groundwater monitoring wells selected for gauging were updated to allow for more representative data input to groundwater contour interpretation. Changes are outlined in **Table 9** and monitoring wells of similar depths have been selected to ensure standing water level (SWL) data is collected from the same aquifer and provide increased accuracy to groundwater contour data collected where previous monitoring wells have been removed.

Table 8 Groundwater Gauging locations

Management/Source Area	Gauging location wet/dry season
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW016, MW046, MW055
Sub-Management Area 3 – includes 5 th Aviation Regiment Precinct.	MW009, MW114, MW247
Northern section of Base, downgradient of Sub-Management Area 2	MW136
East and southeast of Sub-Management Area 1	MW033, MW026, MW063, MW120, MW232
Balance of Base area	MW002, MW004, MW056, MW135, MW241, MW300
Townsville Town Common, north of the Base	MW205, MW206
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW212, MW214, MW216, MW264
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW221, MW225

Table 9 Changes to groundwater gauging locations

Management/Source Area	Gauging location removed	Gauging location added
Northern section of Base, downgradient of Sub-Management Area 2	MW244 as the well depth has been variable and water is often at or near top of casing.	
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013, MW118	MW033 added to replace lost/destroyed well. MW120 added to replace airside well.
East and southeast of Sub-Management Area 1	MW223	MW026 added to replace destroyed well.

4.3.3 Groundwater Sampling Locations

The groundwater locations to be monitored as part of the wet and dry season sampling events are provided in **Table 10** and **Table 11** below and are presented in **Figure 2a** (On-Base) and **Figure 2b** (Off-Base) in **Appendix A**.

Table 10 Groundwater sampling locations- On-Base

Management/Source Area	Monitoring locations dry season	Monitoring locations - wet season	Number of locations	
			Dry	Wet
Sub-Management Area 1 – includes a Former Fire Training Area.	MW118 ¹	Same as dry season	1	1
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005 ¹ , MW015 ¹ , MW016 ¹ , MW021 ¹ , MW046 ¹ , MW054 ¹ , MW055 ¹ , MW081 ¹ , MW090 ² , MW109 ¹ , MW110 ^{1,2} , MW138 ¹ , MW139 ^{1,2} , MW246 ¹ , MW250 ² , MW251	Same as dry season	16	16
Sub-Management Area 3 – includes 5 th Aviation Regiment Precinct.	MW009 ^{1,2} , MW038 ² , MW043 ^{1,2} , MW114 ^{1,2} , MW125 ¹ , MW142 ¹ , MW247 ^{1,2} , MW248 ¹	Same as dry season	8	8
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW140 ¹ , MW243 ¹ , MW244 ¹	Same as dry season	4	4
Northwest of Runway 07/25	MW112	Same as dry season	1	1
East and southeast of Sub-Management Area 1	MW026 ¹ , MW033 ¹ , MW034 ¹ , MW061 ¹ , MW063 ¹ , MW120 ¹ , MW222, MW224, MW232	Same as dry season	9	9
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229	Same as dry season plus MW228	3	4
Balance of Base area	MW002 ¹ , MW004 ¹ , MW056 ¹ , MW057 ¹ , MW122 ¹ , MW135 ¹ , MW234, MW241, MW242 ¹ , MW245 ¹ , MW255, MW265, MW300, MW470 ¹	Same as dry season plus MW235	14	15
Total			56	58

¹Locations conflicting with the Water Quality Monitoring Program.

²Locations where data loggers are present.

Table 11 Groundwater sampling locations- Off-Base

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

¹Locations conflicting with the Water Quality Monitoring Program

4.3.4 Sediment Sampling Locations Rationale

The sediment locations to be monitored as part of the wet and dry season sampling events are provided in **Table 12** and **Table 13** below and are presented in **Figure 3a** and **Figure 3b** in **Appendix A**.

4.3.5 Sediment Sampling Locations

Table 12 Sediment sampling locations- On-Base

Catchment Area	On-base Sediment Sampling Locations	Number of Locations
Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132	5
Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD112, SD123, SD125, SD126, SD131	8
Three Mile Creek Catchment	SD102	1
Total		14

Table 13 Sediment sampling locations- Off-Base

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

4.3.6 Surface Water Sampling Locations Rationale

The surface water locations to be monitored as part of the wet and dry season sampling events are provided in **Table 14** and **Table 15** below and are presented in **Figure 3a** and **Figure 3b** in **Appendix A**. These locations have been selected to maintain consistency with the recent monitoring completed within the Monitoring Area (WSP, 2019a; WSP, 2019b). Surface water locations are co-located with sediment sampling locations, and surface water will be collected where present.

Rainfall event-based sampling will be completed in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period at the locations nominated in **Table 14** and **Table 15** below. Samples will be collected every day for five consecutive days. One rainfall event-based sampling round will be completed per calendar year. Rainfall event-based sampling locations are presented in **Figure 4** in **Appendix A**.

4.3.7 Surface Water Sampling Locations

Table 14 Surface water sampling locations- On-Base

Catchment Area	Surface water sampling locations	Number of Locations
Mundy Creek Catchment	SW001, SW010 ¹ , SW106, SW121 ¹ , SW132 ¹	5
Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014 ¹ , SW016 ¹ , SW112 ¹ , SW123 ¹ , SW125 ¹ , SW126, SW131 ¹	8
Three Mile Creek Catchment	SW102 ¹	1
Total		14

¹Denotes location to be sampled for the Rainfall Sampling Event

Table 15 Surface water sampling locations- Off-Base

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

¹Denotes location to be sampled for the Rainfall Sampling Event

4.4 Sample Collection and Handling

4.4.1 Groundwater Sampling

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

Table 16 Groundwater sampling methodology and schedule

Item	Details
Groundwater gauging	<p>The depth to groundwater will be measured at the beginning of each sampling round, commencing with on Base wells and moving to off-Base locations and finishing with tidally influenced wells along the coastline and waterways.</p> <p>Groundwater wells will also be gauged immediately prior to the collection of groundwater samples.</p>
Sample Collection Methodology	<p>Groundwater samples will be collected from all monitoring wells using no-purge methodology HydraSleeves™ as follows:</p> <ul style="list-style-type: none"> • Where a HydraSleeve™ is used for sample collection, the target interval depths should be recorded. The HydraSleeve™ should not sit at the base of a monitoring well where sediment may be present. • In all cases, the installed position of the top of the HydraSleeves™ must be in the saturated screen and the length of saturated screen above the HydraSleeve must be at least as long as the HydraSleeve™, preferably at least 15 centimetres longer. This should allow the sampler to fill before the top of the device reaches the top of the saturated screen as it is pulled up through the water column and ensures that only water from the screen is collected as the sample. • Where the water column is measured to be less than 1.5 m but more than 0.5 m, a top weight will be added to the HydraSleeve™ before installation to ensure a sample can be collected. • HydraSleeve™ sampling devices will be left in monitoring wells for a minimum of 4 hours when deployed with bottom weights only, to allow stabilisation of the well following the slight disturbance caused by sampler deployment. • HydraSleeves™ with both top and bottom weights will be deployed and left in the well for a minimum of 24 hours, to allow stabilisation of the well and for the top weight to compress. <p>Well construction details are provided in Appendix C. Once sampling is completed, new HydraSleeves™ will not be redeployed. Selected locations will have HydraSleeves™ deployed without a collar due to retrieval difficulties in the previous sampling round (MW246 and MW255). This action will be completed for all sampling rounds.</p> <p>A decontaminated steel bailer is to be used where insufficient water volume is available to collect samples via HydraSleeves™. Where a bailer is used, three well volumes will be removed as per Standard Operating Procedures prior to sample collection.</p>
Field Parameters	<p>Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality will be recorded for all samples. Field parameters are collected ex-situ post sampling using water from the HydraSleeve™. Where a bailer is used, field parameters will be recorded after removal of each well volume.</p>
Sampling Schedule	<p>The monitoring across the investigation area will include two monitoring events, as detailed below:</p> <p>Wet Season: 105 monitoring wells across the Base and surrounding areas.</p> <p>Dry Season: 80 monitoring wells across the Base and surrounding areas.</p>

4.4.2 Surface Water Sampling

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

Table 17 Surface water sampling methodology and schedule

Item	Details
Sample Collection Methodology	Samples to be collected from 0.5 m below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container will be lowered into the water with the cap immediately applied once the container is full. Where the waterway cannot be accessed from the bank a telescopic sampler with a stainless-steel scoop will be used to collect the sample. The sample will then immediately be transferred into the new laboratory supplied container. Where required, a boat will be used to access some locations of the Bohle River.
Field Parameters	Temperature, EC, DO, ORP, pH and observations of water quality will be recorded for all samples. Field parameters are collected ex-situ post sampling using water from the stainless-steel scoop.
Sampling Schedule	Surface water sampling will be conducted at 41 locations during both the wet and dry season sampling events. Samples collected will depend on the availability of water within the waterway. The rainfall triggered sampling event will include 19 locations as denoted in Table 14 and Table 15 .

4.4.3 Sediment Sampling

The sediment sampling methodology and schedule are presented in **Table 18**.

Table 18 Sediment sampling methodology and schedule

Item	Details
Sample Collection Methodology	Samples representative of potentially deposited sediments will be collected from within the water body, if possible. Sediment samples will be collected using a gloved hand, hand trowel (where possible) or sludge and sediment sampler, as appropriate to the sample being collected. At each location, a new laboratory supplied container will be used for each sample.
Sampling Schedule	Sediment sampling will be conducted at 41 locations during both the wet and dry season sampling events.

4.4.4 Laboratory Analysis and Quality Assurance/Quality Control Sampling

The following QA/QC sampling and laboratory analysis will be conducted for all samples as outlined in **Table 19** below.

Table 19 Laboratory Analysis and QA/QC Sampling

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

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, intra- and inter-laboratory jars or bottles during sampling. All samples will be placed on ice in eskies immediately after sampling.

All samples will be kept, where 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 are minimised as far as practicable.

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 Eurofins Environment Testing Australia Pty Ltd (Eurofins) in Brisbane.

4.5 Calibration

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

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

4.6 Logistics

The laboratory sample containers will be collected from the laboratory prior to the commencement of fieldwork. All primary and intra-duplicate samples will be transported to ALS Townsville by the field team for forwarding to Brisbane. All inter-laboratory duplicate samples will be transported to Eurofins Townsville for forwarding to Brisbane under 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 and secondary laboratories selected for this program are ALS (NATA Accreditation Number 825) and Eurofins (NATA Accreditation Number 1261), respectively.

4.7.2 Analytical Schedule

All media sampled shall be analysed for the extended PFAS suite as outlined in **Table 20** below.

Table 20 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 21** below.

Table 21 Laboratory Limits of Reporting

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

LC/MS-MS = Liquid chromatography–mass spectrometry

*LOR for Australian Laboratory Services (ALS)

4.8 Sample Nomenclature

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_YYMMDD

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

e.g. 0874_MW001_200401

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

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

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

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

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

4.9 Defence Esdat Requirements

Defence has contracted Earth Science Information Systems (EsclS), 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 DCMM Annex L (Defence, 2018, amended June 2021). 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:

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

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 22** below.

Table 22 Summary of Adopted Screening Criteria

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

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

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

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

All consumables (i.e., HydraSleeve™, general rubbish) will be bagged and placed in 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) samples and triplicate (inter-laboratory field duplicates) for PFAS analysis will 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 by pouring laboratory supplied deionised water over the decontaminated sampling equipment.

4.12.3 Trip Blank Samples

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

4.13 Fieldwork Documentation

4.13.1 Field Notes

Field notes will be collected electronically and 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 gauging and sampling- date and time of gauging, HydraSleeve™ installation and sampling will be recorded at each sampling location.
- Groundwater and surface water 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.
- Surface water 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 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 utilised 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

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

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

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

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 will be generated electronically using the ALS Compass app to reduce potential transcription errors.

The CoC form will include the following information:

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

- Analyses required;
- Any comments; and
- 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 for analysis.

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; and
- Calibration records.

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

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., recent weather conditions, any visual or olfactory observations that may indicate impacts to surface water or groundwater, or any estate management works or training activities that may have the potential to impact sampling or data);
- A summary of any changes to the monitoring network condition that may affect data integrity, or require rectification works, and recommendations for repair, replacement or 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, and identifying any locations with first-time detections of PFOS + PFHxS or PFOA or new exceedances of guideline values;
- A presentation of the relative 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; and
- Inclusion of the following information as attachments:

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

4.14.2 Ongoing Monitoring Report

At the end of each 12-month monitoring period, AECOM will prepare and submit an Ongoing Monitoring Report (OMR) to Defence. Each OMR 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 the 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 the OMP (Defence, 2019); and
- A statement as to whether the risk profile has changed overall, or for any specific location on the Base or within the Monitoring Area, and a recommendation as to whether this should trigger an OMP and/or PMAP review, or other action.

4.15 Deviation from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the OMP (Defence, 2020), deviations as a result of subsequent sampling events may occur as a result of review of recommendations made in the Sampling/Rainfall/Wet Season/Dry Season Event Reports (AECOM, 2020; AECOM 2021a, 2021b, 2021c, 2021e, 2021f, 2022a, 2022c, 2023a and 2023c, 2023e) and annual interpretive report/OMR (AECOM, 2021d, 2022b and 2023d) and are summarised in **Table 23** below.

Table 23 Deviations from OMP

No	Description	Rationale for deviation	Source
1	Sample from MW049, MW121, MW249	MW049, MW121, MW209, MW230 and MW249, have been removed from the SAQP as these wells are no longer serviceable and alternative replacement wells are not available.	AECOM (2020) Sampling Event Factual Report, April 2020.
2	Sample from MW230 and MW209	MW300 and MW301 replace MW230 and MW209 respectively as the old wells are no longer serviceable.	AECOM (2020) Sampling Event Factual Report, April 2020.
3	Former location codes identified in the OMP were not compliant with Esdat	The location codes have been updated in Esdat.	SAQP Revision 1 (AECOM, February 2021)
4	Sample from MW210	MW210 is to be substituted with alternative well MW471	AECOM (2021a). Sampling Event Factual Report, September 2020.
5	Inclusion of the gauging round	The OMP did not include gauging of selected wells rather all wells in the program. It is not physically possible to gauge all the wells in the program within a 24-hour period, therefore a selection of wells appropriate to producing groundwater contour maps has been identified to enable gauging of wells within one day.	SAQP Revision 7 (AECOM, September 2022)
6	Inclusion of drinking water guidelines	Drinking water guidelines were not included in the OMP Assessment of results against drinking water criteria but have been requested by Defence and therefore included in the SAQP.	SAQP Revision 7 (AECOM, September 2022)
7	Sample from MW116, MW126 and MW129	MW116, MW126 and MW129 have been removed from the SAQP as these wells are no longer serviceable and alternative replacement wells are not available.	AECOM (2023a) Dry Season Sampling Factual Report, October and December 2022.
8	Sample from MW013 and MW223	MW013 and MW223 have been removed from the SAQP as these wells are no longer serviceable and replacement wells are not available.	AECOM (2023e). Dry Season Sampling Event Factual Report. October 2023.
9	Sample from SW/SD019	SW/SD019 has been removed from the SAQP due to the drainage line being filled in with cobbles and chain-link fencing.	AECOM (2023e). Dry Season Sampling Event Factual Report. October 2023.
10	Gauging of MW244	MW244 has been removed from the nominated groundwater wells for gauging as the well depth has been variable and water is often at or near top of casing.	AECOM (2023d). OMR (December 2020 – May 2023).

5.0 References

- AECOM Australia Pty Ltd (AECOM) (2019). Stage 1 Preliminary Site Investigation – RAAF Base Townsville (0874), March 2019, Rev C.
- AECOM (2020). Sampling Event Factual Report, April 2020. PFAS OMP – RAAF Base Townsville. July
- AECOM (2021a). Sampling Event Factual Report, September 2020. PFAS OMP – RAAF Base Townsville. January
- AECOM (2021b). Rainfall Event Sampling Factual Report, December 2020. PFAS OMP – RAAF Base Townsville. May
- AECOM (2021c). Rainfall Event Sampling Factual Report, February 2021. PFAS OMP – RAAF Base Townsville. May
- AECOM (2021d). Annual Interpretive Report 2020, PFAS OMP – RAAF Base Townsville. June
- AECOM (2021e). Sampling Event Factual Report. April 2021. PFAS OMP – RAAF Base Townsville. September
- AECOM (2021f). Sampling Event Factual Report. October 2021. PFAS Ongoing Monitoring Program – RAAF Base Townsville. December
- AECOM (2022a). Rainfall Event Sampling Factual Report, January 2022. PFAS OMP – RAAF Base Townsville. May
- AECOM (2022b). Annual Interpretive Report 2021. PFAS Ongoing Monitoring Program – RAAF Base Townsville. August
- AECOM (2022c). Wet Season Sampling Factual Report. April 2022. PFAS OMP – RAAF Base Townsville. October
- AECOM (2023a). Dry Season Sampling Factual Report, October and December 2022. PFAS OMP – RAAF Base Townsville. February
- AECOM (2023b). Site Management Plan. PFAS Ongoing Monitoring Program – RAAF Townsville. February
- AECOM (2023c). Wet Season and Rainfall Event Sampling Factual Report, April and May 2023. PFAS OMP – RAAF Base Townsville. October
- AECOM (2023d). Ongoing Monitoring Interpretive Report (December 2020 – May 2023), RAAF Base Townsville. October
- AECOM (2023e). Dry Season Sampling Event Factual Report. October 2023. PFAS OMP – RAAF Base Townsville. December
- Australian and New Zealand Governments and Australian state and territory governments [ANZG]. (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- Department of Defence (Defence) (2018). Routine Environment Water Quality Monitoring Manual. Defence (2018, amended June 2021). Defence Contamination Management Manual.
- Defence (2019). PFAS Management Area Plan – RAAF Townsville.
- Department of Health (DoH) (2019). Health Based Guidance Values for PFAS for use in site investigations in Australia.
- GHD Australia Pty Ltd (GHD) (2016) Defence per- and poly-fluoroalkyl Substances (PFAS) Environmental management Preliminary Sampling Program RAAF Base Townsville.
- Heads of Environmental Protection Agencies (HEPA). (2020). PFAS National Environmental Management Plan (NEMP).
- National Environment Protection Council [NEPC]. (1999, as amended May 2013). National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guideline on Site Characterisation.

National Health and Medical Research Council (NHMRC). (2019). Guidance on PFAS in Recreational Water.

Standards Australia (1998). AS/NZS 5667.11–1998: Water Quality – Sampling – Guidance on Sampling of Groundwaters.

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;*

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

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

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

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

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

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

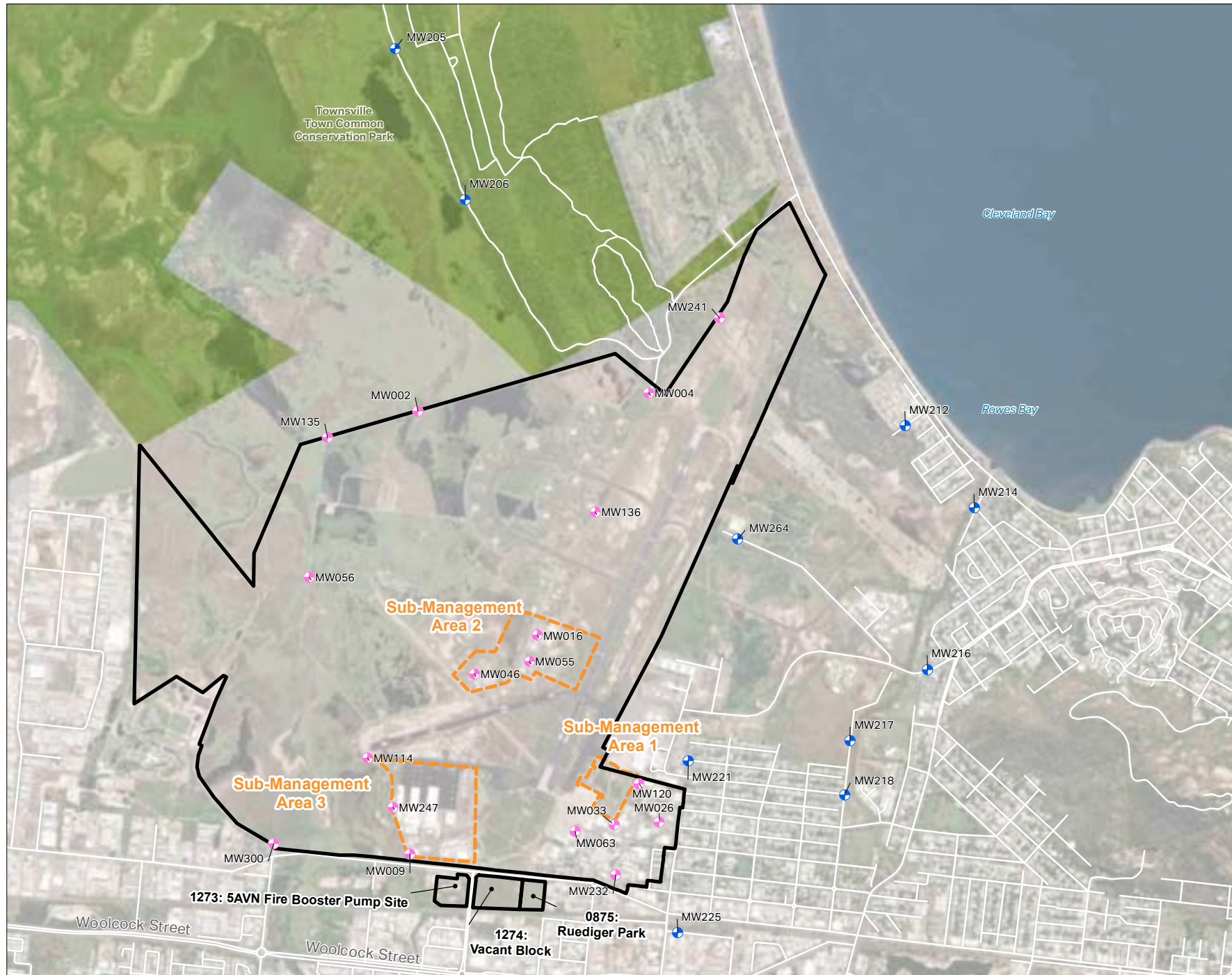
WSP (2019c). RAAF Townsville – Ecological Risk Assessment (ERA). December

Appendix A

Figures

Legend

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



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

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

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

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

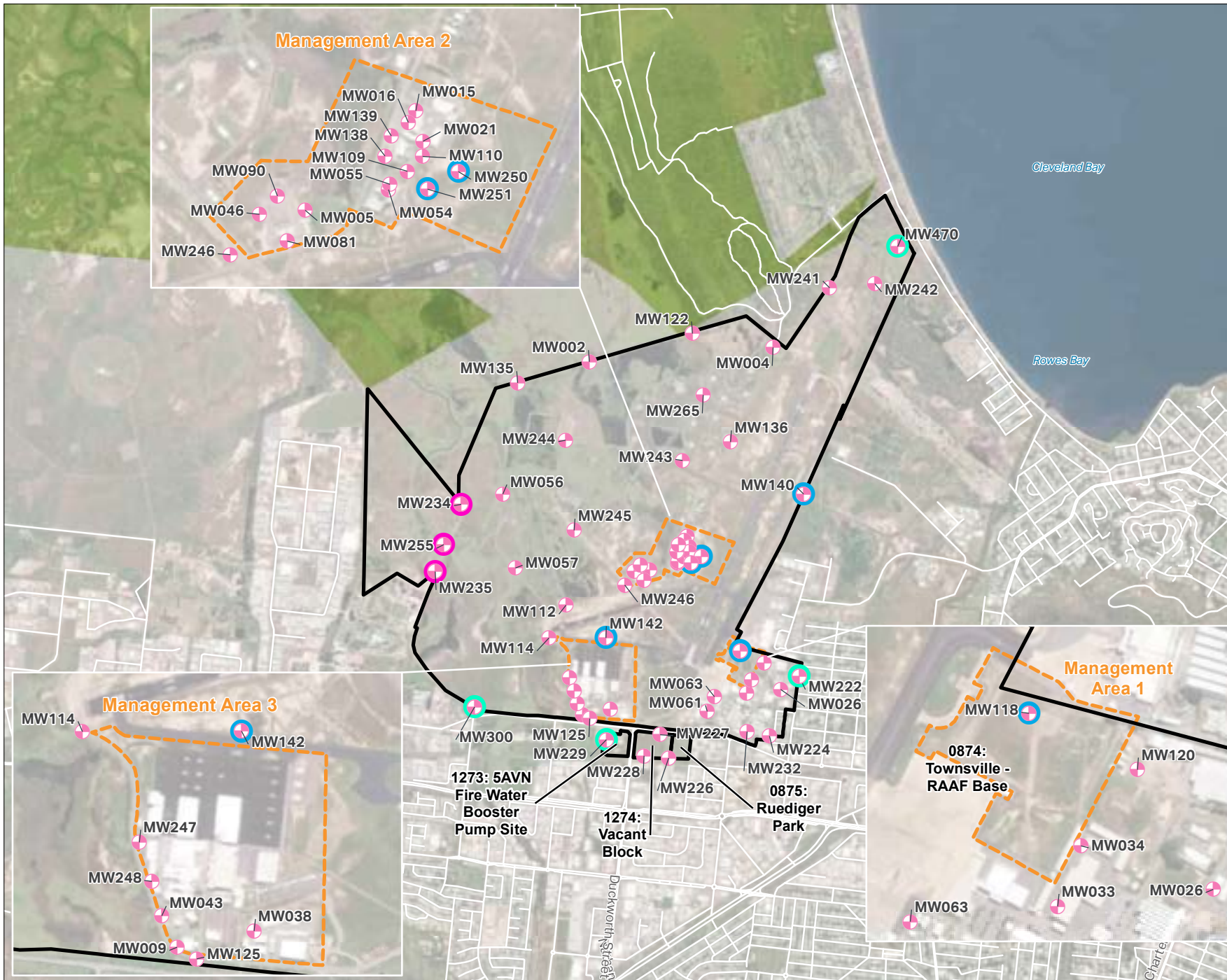


FIGURE 2A:
ON-BASE GROUNDWATER
SAMPLING LOCATIONS

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

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

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



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

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

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International License © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright License). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

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

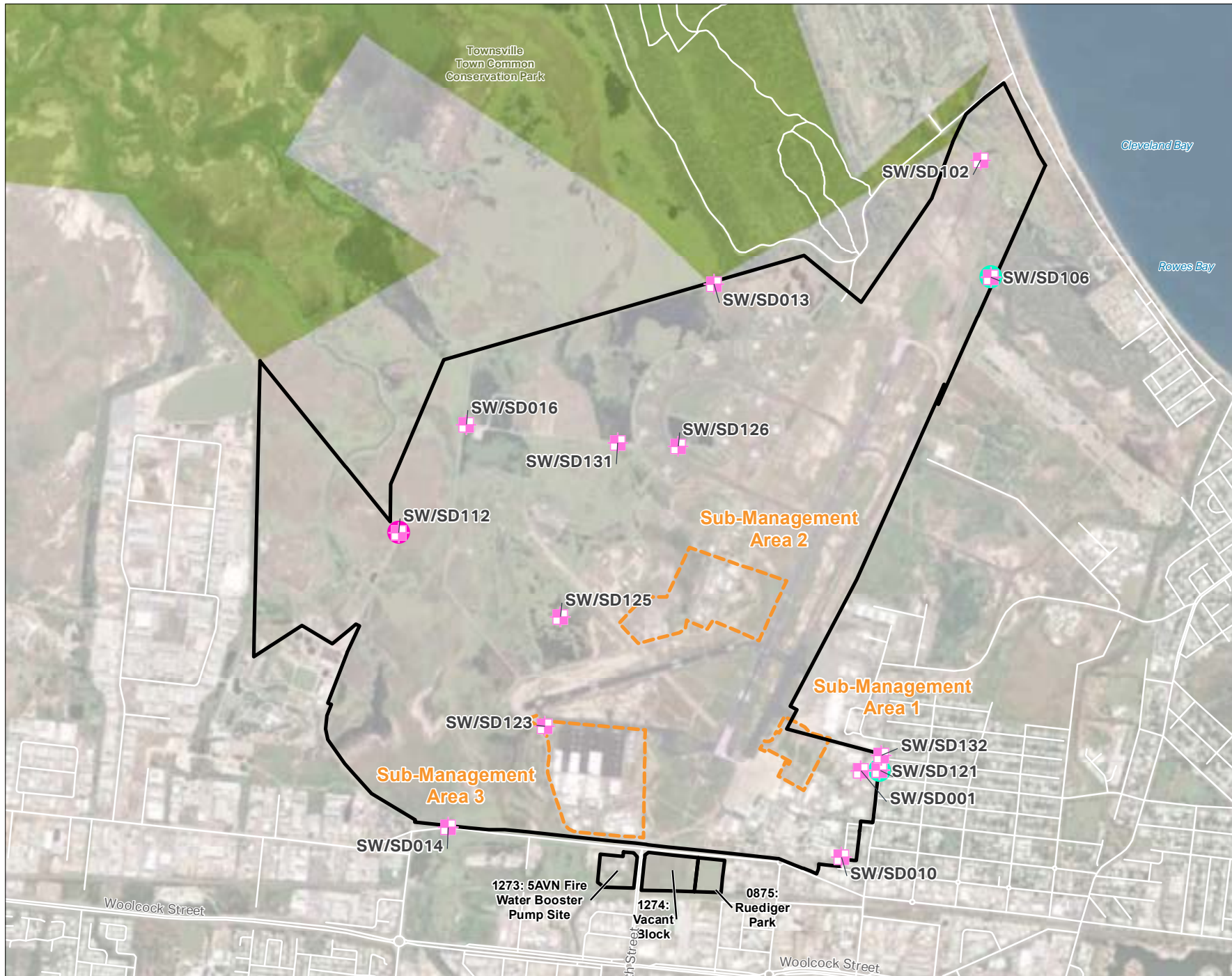


FIGURE 3A:
ON-BASE CO-LOCATED
SURFACE WATER AND
SEDIMENT SAMPLING
LOCATIONS

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

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

- Management Area
- Sub-Management Area
- Off-base
- Airside escort required
- Boat access
- Key required
- Specific approval required

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

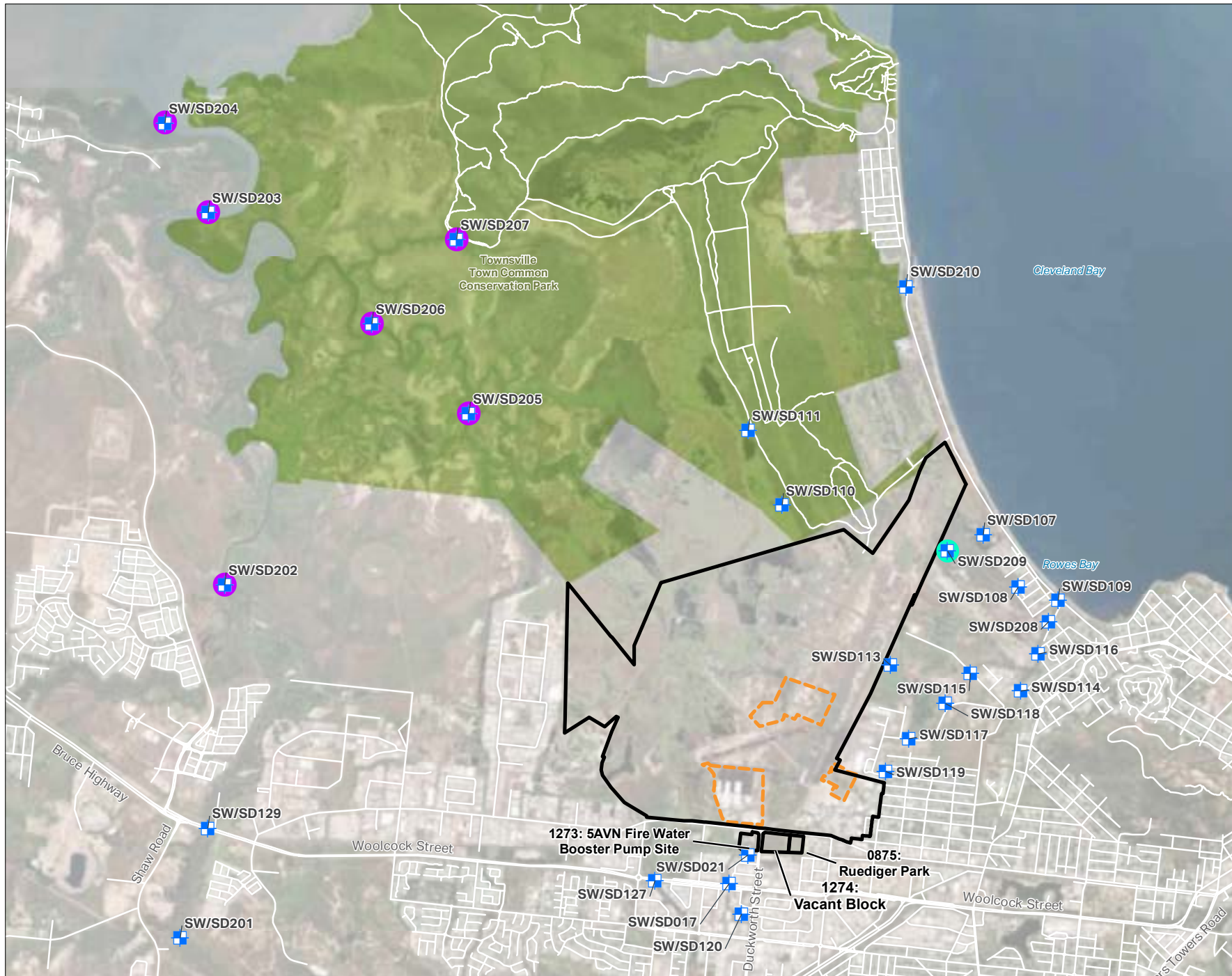
PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
(0874)
Sampling Analysis Quality Plan
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

- Management Area
- Sub-Management Area

On_Off

- Off-Base
- On-Base
- Key required
- Specific approval required

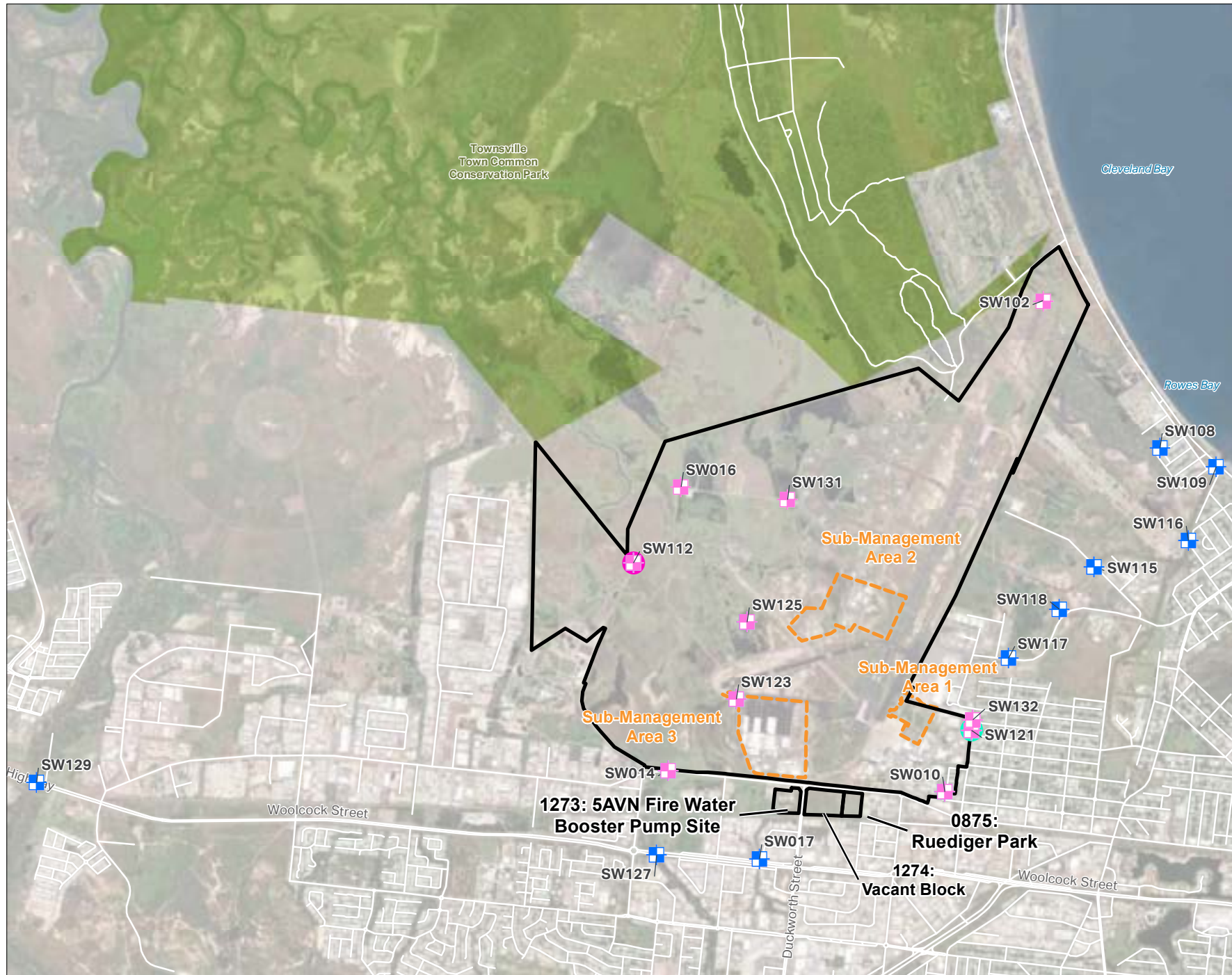


FIGURE 4:
RAINFALL EVENT
BASED SURFACE
WATER SAMPLING
LOCATIONS

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

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

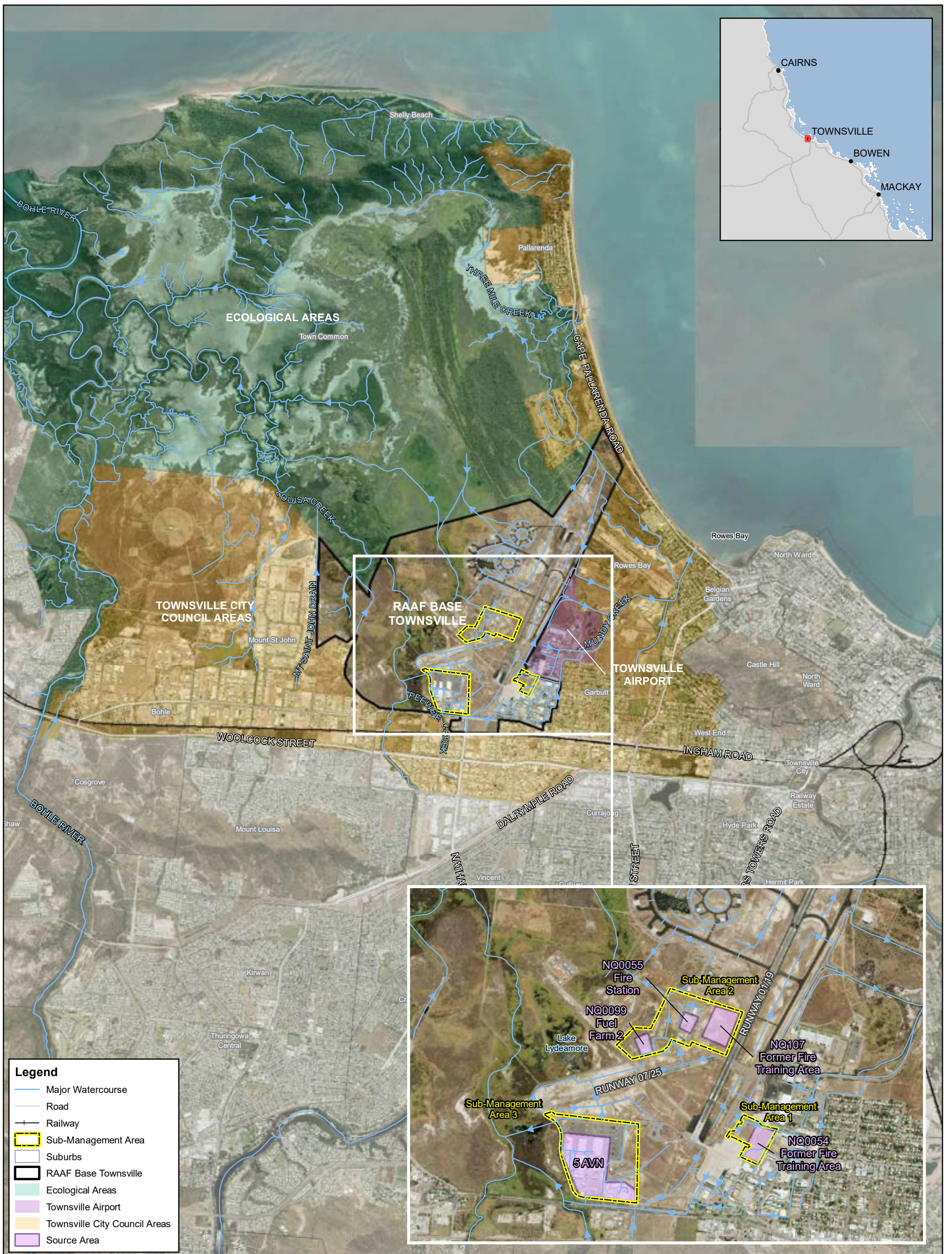
The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Appendix B

RAAF Base Townsville Management Area



Legend

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

Map: PS102571_F001a_ManagementArea_r1v5
 Date: 15/11/2019

Author: NK
 Approved by: DH



0 500 1,000 1,500 m
 1:50,000

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



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

Figure 1a

Management Area Plan (December 2019)

© WSP Australia Pty Limited (WSP) Copyright in the drawings, information and data recorded is the property of WSP. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that which it was supplied by WSP. WSP makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information. NCSI Certified Quality System to ISO 9001. © APPROVED FOR AND ON BEHALF OF © WSP Australia Pty Limited.

Appendix C

Well Construction Details

MW ID	Screen Interval Depth (mbgl)	Well Installation Depth (mbtoc)
MW002	Not available	4.67
MW004	Not available	5.26
MW005	Not available	7.51
MW009	Not available	4.79
MW015	Not available	3.41
MW016	Not available	3.55
MW021	Not available	3.25
MW026	Not available	4.84
MW033	Not available	3.95
MW034	Not available	3.89
MW038	Not available	4.71
MW043	Not available	5.81
MW046	Not available	4.43
MW054	Not available	5.63
MW055	Not available	4.91
MW056	Not available	5.46
MW057	Not available	6.28
MW061	Not available	5.479
MW063	Not available	5.31
MW081	Not available	5.28
MW090	Not available	2.94
MW109	Not available	5.84
MW110	Not available	4.9
MW112	Not available	-
MW114	Not available	5.34
MW118	Not available	4.6
MW120	Not available	5.84
MW122	1.5 - 4.5	6.45
MW125	5 - 11	9.94
MW135	1.5 - 4.5	5.9
MW136	Not available	5.84
MW138	3 - 6	5.97
MW139	3 - 6	6
MW140	Not available	11.18
MW142	3 - 6	6.1
MW201	3.0 – 6.0	5.965
MW202	3.0 – 6.0	6.032
MW203	3.0 – 6.0	4.795
MW204	3.0 – 6.0	5.035
MW205	1.2 - 4.2	4.98
MW206	1 - 4	4.98
MW207	2 - 6	6.23
MW208	1 - 4	4.76
MW211	2 - 6	5.25
MW212	1 - 4	4.07
MW213	1 - 4.5	5.12
MW214	1 - 5	5.27
MW215	1 - 7	6.84
MW216	1 - 4.5	4.34
MW217	2 - 6	5.83
MW218	2 - 6	5.23
MW219	3 - 11	9.08
MW220	3.0 – 6.0	6.38
MW221	1 - 6	5.62
MW222	1.2 - 8	7.97
MW224	2.2 - 8.2	7.93
MW225	1 - 7	6.802

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

Appendix E

Factual Reports (June
2023 - March 2024)

Dry Season Sampling Event Factual Report, October 2023

PFAS OMP - RAAF Base Townsville

05-Mar-2024

PFAS Ongoing Monitoring Program - RAAF Base Townsville

Doc No. 60612487_RP110_20240305_0

Dry Season Sampling Event Factual Report, October 2023

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

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

T +61 7 4729 5500 www.aecom.com


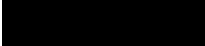

ABN 20 093 846 925

05-Mar-2024

Job No.: 60612487

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

Quality Information

Document Dry Season Sampling Event Factual Report, October 2023
 Ref 60612487_RP110_20240305_0
 Date 05-Mar-2024
 Originator 
 Checker/s 
 Verifier/s 

Revision History





Rev	Revision Date	Details	Approved	
			Name/Position	Signature
A	4-Dec-2023	Draft for Client Review	 Associate Director - Contaminated Land	
B	27-Feb-2024	Draft for Client Review	 Associate Director - Contaminated Land	
0	05-Mar-2024	Final	 Associate Director - Contaminated Land	

Table of Contents

1.0	Introduction	1
	1.1 General	1
	1.2 Objectives	1
2.0	Scope of Work	2
3.0	Methodology	5
	3.1 Groundwater Sampling Methodology	5
	3.2 Surface Water Sampling Methodology	5
	3.3 Sediment Sampling Methodology	6
	3.4 Quality Assurance / Quality Control and Analysis	6
	3.5 Adopted Screening Criteria	6
	3.6 Data Quality Objectives and Data Validation	7
	3.7 Deviations from the SAQP	8
4.0	Field Observations and Results	10
	4.1 Groundwater	11
	4.1.1 Observations and Field Measurements	11
	4.1.2 Groundwater Analytical Results	12
	4.2 Surface Water	13
	4.2.1 Observations and Field Measurements	13
	4.2.2 PFAS Surface Water Analytical Results	13
	4.3 Sediment	14
	4.3.1 Observations and Field Measurements	14
	4.3.2 PFAS Sediment Analytical Results	14
5.0	Summary and Next Sampling Event	16
	5.1 Summary of Sampling Event	16
	5.2 Upcoming Sampling Events	17
	5.3 Upcoming Ongoing Monitoring Interpretive Report	17
6.0	References	18
	Appendix A	
	Figures	A
	Appendix B	
	Analytical Tables	B
	Appendix C	
	Data Validation	C
	Appendix D	
	Chain of Custody Records	D
	Appendix E	
	Laboratory Analytical Reports	E
	Appendix F	
	Calibration Certificates	F

List of Tables (in Text)

Table 1	Groundwater Sampling Locations	3
Table 2	Surface Water Sampling Locations	4
Table 3	Sediment Sampling Locations	4
Table 4	Groundwater Sampling Methodology	5
Table 5	Surface Water Sampling Methodology	5
Table 6	Sediment Sampling Methodology	6
Table 7	QA/QC and Analysis for OMP	6
Table 8	Summary of Adopted Screening Criteria	7
Table 9	Deviations from the SAQP during 2023 Dry Season Sampling Event	8
Table 10	Weather Conditions and Estate Activities at Time of Sampling	10
Table 11	Groundwater Observations and Field Measurements	11
Table 12	Locations with New Historical Maximums for Groundwater	12
Table 13	Surface Water Observations and Field Measurements	13
Table 14	Locations of New Historical Maximum Concentrations for Surface Water	14
Table 15	Sediment Observations	14
Table 16	Locations of New Historical Maximum Concentrations for Sediment	14
Table 17	Summary of Sampling Event	16

List of Figures (Appendix A)

Figure 1	RAAF Base Townsville Location Plan
Figure 2	Groundwater Monitoring Locations
Figure 3	Surface Water and Sediment Monitoring Locations
Figure 4	Inferred Groundwater Contours – Dry Season
Figure 5	New Exceedances of Ecological Screening Criteria for PFOS in Groundwater
Figure 6	First-time Detections of PFOA, PFOS, or Sum of PFOS+PFHxS above LOR in Sediment

List of Tables (Appendix B)

Table T1	Groundwater Gauging
Table T2	Groundwater Field Parameters
Table T3	Groundwater PFAS Analytical Results
Table T4	Surface Water Field Parameters
Table T5	Surface Water PFAS Analytical Results
Table T6	Sediment Observations
Table T7	Sediment PFAS Analytical Results
Table T8	Historical Groundwater PFAS Analytical Results
Table T9	Historical Surface Water PFAS Analytical Results
Table T10	Historical Sediment PFAS Analytical Results

Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)
BoM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPM	National Environmental Protection Measure
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling and Analysis Quality Plan
SD	Sediment
SMA	Sub-Management Area
SW	Surface Water
SWL	Standing Water Level
WQM	Water Quality Meter

Units of measurement

Unit	Definition	Unit	Definition
		mAHD	metres Australian Height Datum
°C	Degrees Celsius	mg	Milligrams
L	Litre	mm	Millimetre
µS	Microsiemens	cm	Centimetre
kg	Kilogram	mV	Millivolts
m	Metre	µg	Micrograms
mBTOC	metres below top of casing		

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2020) at RAAF Base Townsville (the 'Base') located in the North Queensland Region. The Monitoring Area (which includes areas on-Base and off-Base), location of the Base and the Sub-Management Areas¹ are shown in **Figure 1, Appendix A**.

The OMP for Townsville (Defence, 2020) includes biannual groundwater, surface water, and sediment sampling events in April and October 2020, April and October 2021, April and October 2022, April and October 2023 and April 2024.

These biannual sampling events include:

- Gauging of 28 wells to measure depth to water within 24 hours for generation of groundwater contours.
- Groundwater sampling of 58 monitoring wells on-Base and 24 wells off-Base during the dry season.
- Sediment sampling at 15 locations on-Base with co-located surface water sampling when water is present.
- Sediment sampling at 27 locations off-Base with co-located surface water sampling when water is present.

A sampling and analysis quality plan (SAQP) (AECOM, 2023) provides details of the sampling events.

This Sampling Event Factual Report has been prepared to report the results of the 2023 Dry Season Sampling Event which was completed in October 2023. This report specifically highlights first-time detections and/or new exceedances of human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + Perfluorohexane sulfonate (PFHxS) and/or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Defence, 2021).

1.2 Objectives

The objectives of the ongoing monitoring program are to:

- Implement the OMP prepared as part of the PMAP (Defence, 2020); 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 to protect human health and the environment, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the 2023 Dry Season Event Sampling scope of work in general accordance with the latest version of the SAQP (AECOM, 2023).

¹ Sub-Management Area 1 – South-east corner of Base north of No. 27 Squadron (27SQN) headquarters, Sub-Management Area 2 – Centre of Base including the Fire station and Fuel installation, Sub-Management Area 3 – 5th Aviation Regiment (5AVN) compound

2.0 Scope of Work

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

- Review of the SAQP (AECOM, 2023) prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP), version 2.0 (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 (Defence, 2019)
 - AS/NZ 5667:1998 Water quality – Sampling
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Gauging of 29 groundwater monitoring wells across a 24-hour period was nominated in the SAQP to enable groundwater contour generation (refer to **Table 1**, **Appendix B** and **Figure 4**, **Appendix A**). Groundwater was gauged in 28 wells. Three gauging locations, MW118, MW033, and MW223 were inaccessible on gauging day, with suitable alternative locations gauged in their place. The version of the SAQP at the time of the monitoring event nominated MW244 to be gauged, but MW244 was not gauged during the event due to previous measurements at MW244 not being representative of the aquifer as water measurements were often at or near the top of the casing.
- Collection of groundwater samples from the locations nominated in the SAQP for the dry season sampling event. Of the 82 locations proposed to be sampled (AECOM, 2023), 80 sample locations (56 on-Base and 24 off-Base) were sampled (refer to **Table 1** and **Figure 2**, **Appendix A**). Two monitoring wells on-Base could not be sampled. MW223, located on-Base, was unable to be sampled due to the well having been resurfaced with compact gravel and was therefore not accessible. MW013, located in Sub-Management Area (SMA) 1, was unable to be located due to remediation works. Standing water level (SWL) was measured in all wells immediately prior to sampling.
- Collection of co-located surface water and sediment samples for the dry season sampling event. Of the 42 locations proposed to be sampled (AECOM, 2023), 41 locations (14 on-Base and 27 off-Base) were sampled for sediment, with 34 locations (9 on-Base and 25 off-Base) sampled for surface water where water was available (refer to **Table 2** and **Table 3**, and **Figure 3**, **Appendix A**). On-Base surface water and sediment co-location SW/SD019 was inaccessible due to the drainage line being filled in with cobbles and chain-link fencing, therefore, samples from this location were not collected.
- Analysis of all samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR).
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite, one rinsate sample per fieldwork day, and one trip blank per batch.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Dry Season Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

Area	Monitoring Well ID
On-Base	
SMA 1 – includes a Former Fire Training Area.	MW013 [^] , MW118
SMA 2 – includes a Former Fire Training Area, Fire Station, and Fuel Farm.	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
SMA 3 – includes 5th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, downgradient of SMA 2	MW136, MW140, MW243, MW244
North-west of Runway 07/25	MW112
East and south-east of SMA 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223 [#] , MW224, MW232
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229
Balance of Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW234, MW241, MW242, MW245, MW255, MW265, MW300, MW470
Off-Base	
Townsville Town Common, north of the Base	MW205, MW206, MW207, MW208
Suburb of Pallarenda, north-east of the Base	MW233, MW252, MW253, MW301
Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW264, MW467, MW471
Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW221, MW225, MW263, MW267

[^] Location unable to be sampled due to remediation activities in SMA 1

[#] Location unable to be sampled due to the area being resurfaced with compacted gravel

Table 2 Surface Water Sampling Locations

Locations		Surface Water Location ID
On-Base	Mundy Creek Catchment	SW001, SW010, SW106, SW121 [^] , SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW013 [^] , SW014, SW016 [^] , SW019 [#] , SW112, SW123, SW125 [^] , SW126, SW131
	Three Mile Creek Catchment	SW102 [^]
Off-Base	Mundy Creek Catchment	SW108, SW109, SW113, SW114 [^] , SW115, SW116, SW117, SW118, SW119, SW208, SW209
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120 [^] , SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207
	Three Mile Creek Catchment	SW107, SW210

[^] Location was dry and unable to be sampled.

[#] Location was unable to be sampled due to infilling of the drainage line.

Table 3 Sediment Sampling Locations

Locations		Sediment Location ID
On-Base	Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132
	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019 [^] , SD112, SD123, SD125, SD126, SD131
	Three Mile Creek Catchment	SD102
Off-Base	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209
	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Three Mile Creek Catchment	SD107, SD210

[^] Location unable to be sampled due infilling of the drainage line.

3.0 Methodology

The methodology used for the 2023 Dry Season Sampling Event was in general accordance with the SAQP (AECOM, 2023) and is summarised in **Sections 3.1-3.3**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 4** below.

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater Gauging	The depth to groundwater was measured in the monitoring wells using an interface probe, commencing with on-Base wells, and moving to off-Base locations and finishing with tidally influenced wells along the coastline and waterways. The depth to groundwater was also measured in each monitoring well immediately prior to the collection of groundwater samples. The data are presented in Tables T1 and T2 in Appendix B .
Water Quality Parameters	Field parameters are collected ex situ post-sampling using water from the HydraSleeve™. Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded using a calibrated water quality meter (WQM). The results are presented in Table T2, Appendix B . Equipment calibration certificates for the WQM are provided in Appendix F .
Sampling Methodology	<p>Groundwater samples were collected from all 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 (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer.</p> <p>HydraSleeves™ were installed based on measured well depth. Where the water column was measured to be less than 1.5 m but more than 0.5 m, a top weight was added to the HydraSleeve™ before installation to ensure adequate sample volume could be collected. HydraSleeves™ were not redeployed.</p>

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 5** below.

Table 5 Surface Water Sampling Methodology

Item	Details
Water Quality Parameters	Field parameters were collected ex situ post-sampling using water from the stainless-steel scoop. Temperature, EC, DO, ORP, pH and observations of water quality were recorded using a calibrated WQM (results detailed in Table T4 Appendix B).
Sampling Methodology	<p>Samples were collected from 0.5 m below the water surface with a sampling pole to minimise collection of sediment or floating materials in the samples. At each location, a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into laboratory supplied containers with the cap immediately applied once the container was full.</p> <p>Where required, a boat was used to access some locations of the Bohle River.</p>

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 6** below.

Table 6 Sediment Sampling Methodology

Item	Details
Sampling Methodology	Samples representative of potentially deposited sediments was collected from within the water body (if possible) using a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6, Appendix B .

3.4 Quality Assurance / Quality Control and Analysis

The quality assurance/quality control (QA/QC) requirements and analysis completed for the OMP sampling event are summarised in **Table 7**, below.

Table 7 QA/QC and Analysis for OMP

Item	Details
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), trip blank samples and rinsate samples. Intra- and inter-laboratory samples were collected at a rate of one per ten primary samples. Trip blanks were prepared in the laboratory by filling sampling containers with laboratory supplied PFAS-free deionised water and were included with four batches throughout the program (ET2304829, ET2304975, ET2304991 and 1035859/1039604). Rinsate samples were collected at a rate of one per day of sampling when non-dedicated equipment was used by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite analysis using the standard levels of detection. Australian Laboratory Services (ALS) Environmental Pty Ltd Brisbane, Queensland was used as the primary laboratory. Eurofins of Brisbane, QLD was used as the secondary laboratory. ALS and Eurofins methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.5 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 include the following:

- PFAS NEMP, version 2.0 (HEPA, 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. October 2017 [updated September 2019].
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM, 2013).

In accordance with the OMP (Defence, 2020) and SAQP (AECOM, 2023), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 8** below.

Table 8 Summary of Adopted Screening Criteria

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

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

3.6 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**. Data validation procedures 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 although some minor non-conformances are present, the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

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

Upon review of current and historical data, anomalous results were identified for three locations including two on-Base groundwater wells and one on-Base sediment location. These locations (SD016, MW015 and MW021) were resampled in accordance with the SAQP and the new results were accepted as more representative and more consistent with historical concentrations. Detections of PFAS in two rinsate samples were investigated and indicated that concentrations were similar to previous results for samples collected on that day and therefore not deemed to affect the outcome of this investigation.

3.7 Deviations from the SAQP

Table 9 lists the deviations from the SAQP (AECOM, 2023) during the 2023 Dry Season Sampling Event.

Table 9 Deviations from the SAQP during 2023 Dry Season Sampling Event

SAQP	2023 Dry Season Sampling Event	Impact of Deviation
Collection of 82 groundwater samples	<p>Two groundwater samples were not collected, both located close to SMA 1:</p> <ul style="list-style-type: none"> MW013 was unable to be sampled due to remediation works being completed in SMA 1 restricting access to this location. MW223 was unable to be sampled as it could not be found during the sampling event. The location of the well and surrounds has recently been resurfaced with compacted gravel. 	<p>PFAS concentrations unknown at these locations. Suitable downgradient wells are present and currently monitored.</p>
Gauging of 29 wells	<p>The version of the SAQP at the time of the monitoring event nominated MW244 was to be gauged, but MW244 was not gauged during the event due to previous measurements at MW244 not being representative of the aquifer as water measurements were often at or near the top of the casing. Three other wells nominated in the SAQP were not gauged:</p> <ul style="list-style-type: none"> MW013 and MW223 for reason above. MW118 due to Airside access not possible on gauging day, and the well was inaccessible. <p>In replacement, gauging of three alternative wells was completed. The alternative wells were MW033, MW026 and MW120 respectively..</p>	<p>No impact on the gauging event from not gauging MW244 due to previous measurements not being representative of the aquifer.</p> <p>No impact on the gauging event as replacement locations were as close as possible to the nominated wells and suitable to provide groundwater level data to allow groundwater contour and flow direction to be inferred.</p>
Sampling of 42 surface water / sediment sampling locations	<p>One co-located surface water and sediment sampling location, SW/SD019, was not sampled because the drainage line has been filled in with cobbles and covered in chain link fencing.</p>	<p>The filling of the drain has altered the surface water pathway in this area, and this is a considerable change to SMA 3 which requires further consideration. Surface water flow from SMA 3 is still sampled from this drainage channel at SW/SD123, which is located downstream of SW/SD019</p>

SAQP	2023 Dry Season Sampling Event	Impact of Deviation
Anomalous results	<p>MW015 and MW021 resampled on 17 November 2023 due to anomalous results that reported concentrations of PFOS, PFOA and sum of PFOS+PFHxS an order of magnitude lower than historical results.</p> <p>Sediment sample SD016 resampled on 17 November 2023 due to anomalous results that reported concentrations several orders of magnitude greater than historical results.</p>	Resampled results were consistent with historical results and accepted as the Dry Season 2023 results.

4.0 Field Observations and Results

The 2023 Dry Season Sampling Event was completed between 4 and 13 October 2023. Due to anomalous results, two on-Base groundwater monitoring wells (MW015 and MW021) and one sediment sampling location (SD016) were resampled on 17 November 2023. Groundwater gauging and deployment of HydraSleeves™ was conducted at the beginning of the sampling round.

The results are summarised in the following sections.

Details on weather conditions and estate management works or training activities during the sampling event and access are recorded in **Table 10**.

Table 10 Weather Conditions and Estate Activities at Time of Sampling

Item	Observations
Weather Conditions	<p>Weather was dry during the sampling program. The temperature ranged between 23.6°C and 37.1 °C in October 2023.</p> <p>A summary of the rainfall recorded since the completion of the Wet Season 2023 Sampling Event and during the Dry Season Sampling Event includes:</p> <ul style="list-style-type: none"> • April 2023: 111.8 mm • May 2023: 7.6 mm • June 2023: 0 mm • July 2023: 76.6 m • August 2023: 6.8 mm • September: 1.0 mm • October 2023: 8.4 mm
Estate Management Works or Training Activities	SMA 1 (Figure 1, Appendix A) was undergoing remediation activities which prevented access to monitoring well location MW013.
Other Activities	<p>Monitoring wells MW013 and MW223 were unable to be accessed as the area encompassing the well has been resurfaced with compact gravel since the previous monitoring round and the well could not be found.</p> <p>Co-located surface water and sediment location SD/SW019 was unable to be sampled as the drainage line has been filled in with cobbles and covered in chain link fencing.</p>

The results of the sampling event are summarised in **Sections 4.1-4.3**.

4.1 Groundwater

4.1.1 Observations and Field Measurements

Table 11 Groundwater Observations and Field Measurements

Item	Observations								
Access	<p>All monitoring wells were accessible for gauging, with the exception of the following:</p> <ul style="list-style-type: none"> MW013; construction works within SMA 1. MW118; airside location that was not able to be accessed to gauge on gauging day. MW223; location resurfaced. <p>Alternative wells were gauged in place of those that could not be accessed.</p> <p>80 of the 82 monitoring wells were accessible for sampling with MW013 and MW223 not available as described above.</p>								
Monitoring Well Network	All accessible monitoring wells were noted to be in good condition, however, MW226 requires the well head bolts to be replaced due to being damaged by a lawn mower.								
Depth to Groundwater	<p>Selected wells were gauged to ascertain groundwater flow direction. For the gauging event undertaken within a 24-hour period on 10 October 2023 (presented in Table 1, Appendix B), depth to groundwater ranged between 0.73 (MW002) and 2.739 (MW214) metres below top of casing (mBTC). Groundwater elevations were between 0.803 (MW135) and 3.944 (MW232) metres Australian Height Datum (mAHD). Groundwater contours are presented on Figure 4, Appendix A.</p> <p>For the entire Dry Season 2023 dataset, depth to groundwater ranged between 0.670 (MW090) and 3.785 (MW470) mBTC. Groundwater elevations were between 0.333 (MW244) and 3.932 (MW232) mAHD during the sampling event. Groundwater gauging data are presented in T1 and T2, Appendix B.</p>								
Field Observations	<p>Groundwater samples were found to be typically odour and sheen free, with the exception of the following samples.</p> <table border="1"> <thead> <tr> <th>Observation</th> <th>Affected wells</th> </tr> </thead> <tbody> <tr> <td>Sulfurous odour</td> <td>MW118, MW125, MW002, MW122, MW222, MW226, MW227, MW232, MW242, MW264, MW267</td> </tr> <tr> <td>Organic odour</td> <td>MW004, MW056, MW135, MW244, MW205, MW206, MW207, MW212, MW213, MW214, MW215, MW216, MW218, MW221</td> </tr> <tr> <td>Biosheen</td> <td>MW002</td> </tr> </tbody> </table> <p>Groundwater colour was typically recorded as clear, however several groundwater colours were recorded including black, black/grey, brown, grey, light grey, light brown, and yellow. Groundwater ranged from clear to high turbidity. No other visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells.</p> <p>Field observations are presented Table T2, Appendix B.</p>	Observation	Affected wells	Sulfurous odour	MW118, MW125, MW002, MW122, MW222, MW226, MW227, MW232, MW242, MW264, MW267	Organic odour	MW004, MW056, MW135, MW244, MW205, MW206, MW207, MW212, MW213, MW214, MW215, MW216, MW218, MW221	Biosheen	MW002
Observation	Affected wells								
Sulfurous odour	MW118, MW125, MW002, MW122, MW222, MW226, MW227, MW232, MW242, MW264, MW267								
Organic odour	MW004, MW056, MW135, MW244, MW205, MW206, MW207, MW212, MW213, MW214, MW215, MW216, MW218, MW221								
Biosheen	MW002								
Groundwater Flow Direction	<p>Groundwater contours and inferred groundwater flow directions for the gauging event undertaken within a 24-hour period on 10 October 2023 are shown on Figure 4, Appendix A.</p> <p>Consistent with historical groundwater data, the inferred local groundwater flow direction in the central portions of the Base is to the north-east, towards Rowes Bay.</p> <p>Groundwater elevations in northern portions of the Base are flat. There appears to be</p>								

Item	Observations
	localised mounding of groundwater in the south-eastern corner of the Base, with radial groundwater flow to the north, north-east and north-west. Groundwater flow off-Base to the east, towards Cleveland Bay, is flat.
Water Quality Parameters	<p>Groundwater quality parameters were measured at the time of sampling. The readings are presented in Table T2, Appendix B and are summarised below, covering the sampling event completed in October 2023:</p> <ul style="list-style-type: none"> • DO results ranged from 0.39 mg/L (MW215) to 6.84 mg/L (MW470) indicating poor to well oxygenated conditions. • EC ranged from 349.2 μS/cm (MW026) to 100,399 μS/cm (MW255) indicating fresh to saline conditions. • pH ranged from 3.4 (MW206) to 8.15 (MW054). pH results generally indicated acidic to slightly alkaline conditions. • Corrected ORP ranged from -23.8 mV (MW221) to 442.5 mV (MW206) indicating mildly reducing to strongly reducing conditions. • Temperature ranged from 24.1°C (MW056) to 31.1°C (MW263).

4.1.2 Groundwater Analytical Results

Of the 80 groundwater wells sampled during the 2023 Dry Season Sampling Event, 75 samples reported concentrations of PFAS above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3, Appendix B** with laboratory analytical reports presented in **Appendix E**.

One new exceedance of the ecological guideline for PFOS was recorded at MW300. This well is located in the south-western corner of the Base, as shown in **Figure 5, Appendix A**.

There were no first-time detections of PFOS, PFOA or PFHxS in any groundwater samples in October 2023.

Historical groundwater results are presented in **Table T8, Appendix B**. Groundwater results from this sampling event were compared to the historical range of sample results reported at each location. **Table 12** identifies locations reporting new historical maximum concentrations.

Table 12 Locations with New Historical Maximums for Groundwater

Compound	Location	
	On-Base	Off-Base
PFOS	MW009, MW004, MW224, MW232, MW265, MW300	MW217
PFOA	MW009, MW470	MW215
Sum of PFOS+PFHxS	MW009, MW470	-

Groundwater sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of MW009, MW224, and MW215, which reported concentrations of PFOS, or PFOA and/or sum of PFOS+PFHxS one (or more) order of magnitude higher than historical results. MW015 and MW021 initially reported concentrations of PFOS, PFOA and sum of PFOS+PFHxS an order of magnitude lower than historical results. These locations were resampled on 17 November 2023 and the resampled results were consistent with historical results and accepted as the Dry Season 2023 results.

4.2 Surface Water

4.2.1 Observations and Field Measurements

Table 13 Surface Water Observations and Field Measurements

Item	Observations						
Access	All surface water locations were accessible during the sampling event, with the exception of SW019 due to infilling of the drainage line. Seven locations were dry and surface water samples could not be collected.						
Wet Season Field Observations	<p>Sampled surface water locations were generally found to be odour and sheen free, with the exception of the following samples:</p> <table border="1"> <thead> <tr> <th>Observation</th> <th>Affected locations</th> </tr> </thead> <tbody> <tr> <td>Organic odour</td> <td>SW014, SW112, SW132, SW110, SW111, SW202, SW108, SW109, SW116, SW117, SW118, SW119, SW208, SW107, SW210</td> </tr> <tr> <td>Biosheen</td> <td>SW106, SW107</td> </tr> </tbody> </table> <p>Surface water colour was generally recorded as light olive brown, however water was also noted as dark olive brown, brown, and pale yellow. Turbidity ranged from clear to high turbidity.</p> <p>No other visible or olfactory indications of note were observed during the sampling of the surface water locations. Field observations are presented Table T4, Appendix B.</p>	Observation	Affected locations	Organic odour	SW014, SW112, SW132, SW110, SW111, SW202, SW108, SW109, SW116, SW117, SW118, SW119, SW208, SW107, SW210	Biosheen	SW106, SW107
Observation	Affected locations						
Organic odour	SW014, SW112, SW132, SW110, SW111, SW202, SW108, SW109, SW116, SW117, SW118, SW119, SW208, SW107, SW210						
Biosheen	SW106, SW107						
Water Quality Parameters	<p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T4, Appendix B and are summarised below.</p> <ul style="list-style-type: none"> • DO results ranged between 1.16 mg/L (SW014) and 16.38 mg/L (SW132), indicating low to well oxygenated conditions. • EC ranged from 501 µS/cm (SW021) to 128,971 µS/cm (SW107), indicating fresh to saline conditions. • pH ranged from 2.8 (SW113) to 9.75 (SW119), indicating acidic to alkaline conditions. • Corrected ORP ranged from 104.2 mV (SW111) to 672.2 mV (SW113), indicating oxidising to moderately to reducing conditions. • Temperature ranged from 24.5°C (SW014) to 33.5°C (SW107). 						

4.2.2 PFAS Surface Water Analytical Results

Of the 34 surface water samples collected during the 2023 Dry Season Sampling Event, 33 samples (excluding SW210) reported concentrations of PFAS above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T5, Appendix B** with laboratory analytical reports presented in **Appendix E**.

There were no first-time detections or new exceedances of guideline values detected in surface water during this sampling event. Historical surface water results are presented in **Table T9, Appendix B**.

Surface water results from this sampling event were compared to the historical range of samples collected at each location. **Table 14** identifies the locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS.

Table 14 Locations of New Historical Maximum Concentrations for Surface Water

Compound	Location	
	On-Base	Off-Base
PFOA	SW126	SW110, SW111
PFOS	SW123	-
Sum of PFOS+PFHxS	SW123	-

Surface water sampling results were generally within the same order of magnitude as historically reported concentrations.

4.3 Sediment

4.3.1 Observations and Field Measurements

Table 15 Sediment Observations

Item	Observations
Access	All sediment locations were accessible during the sampling event, with the exception of SD019 due to infilling of the drainage line.
Field Observations	No visible or olfactory indications of contamination were observed during the sampling of sediment locations. Organic odours were detected at 14 sediment locations: SD112, SD106, SD102, SD110, SD111, SD202, SD108, SD013, SD117, SD118, SD119, SD208, SD209, and SD207. An organic/hydrogen sulfide odour was detected at SD207. Sediment logging and observation data are presented in Table T6, Appendix B .

4.3.2 PFAS Sediment Analytical Results

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

Of the 41 sediment samples collected, 40 samples (excluding SD017) reported concentrations of PFAS above the laboratory LOR. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B** with laboratory analytical reports presented in **Appendix E**.

Three first-time detections in two off-Base sediment samples were reported at SD129 (for PFOA at 0.0003 mg/kg), and SD201 (for PFOS at 0.0003 mg/kg and PFOS+PFHxS at 0.0003 mg/kg) as shown in **Figure 6, Appendix A**. PFAS was detected in co-located surface water samples during this and historical monitoring rounds at both SW/SD129 and SW/SD201. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Historical sediment results are presented in **Table T10, Appendix B**. Sediment results from this sampling event were compared to the historical range of samples collected at each location, with the locations identified in **Table 16** reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS.

Table 16 Locations of New Historical Maximum Concentrations for Sediment

Compound	Location	
	On-Base	Off-Base
PFOA	SD123	SD111, SD115, SD129, SD113, SD117
PFOS	SD010, SD106	SD129, SD113, SD117, SD201
Sum of PFOS+PFHxS	SD010, SD106	SD201

Sediment sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of SD016 which initially reported concentrations several orders of magnitude greater than historical results. This location was resampled on 17 November 2023 and the resampled results were consistent with historical results and were accepted as the Dry Season 2023 results.

5.0 Summary and Next Sampling Event

5.1 Summary of Sampling Event

The 2023 Dry Season Sampling Event was undertaken between 4 October and 13 October 2023, and included sampling from:

- 80 groundwater monitoring locations; and
- 41 sediment monitoring locations; and
- 34 surface water monitoring locations.

Resampling of three locations including two groundwater monitoring wells and one sediment location was completed on 17 November 2023 to verify anomalous PFAS concentrations.

Table 17 summarises the findings of the sampling event and the recommended actions.

Table 17 Summary of Sampling Event

Item	Comment	Recommended Actions
<p><u>Groundwater:</u> Access to sampling locations and monitoring well network condition.</p>	<ul style="list-style-type: none"> • All monitoring wells were accessible, with the exception of MW013 (remediation works within SMA 1) and MW223 (resurfaced with compact gravel). • MW226 requires the well head bolts to be replaced due to being damaged by a lawn mower. • MW244 not gauged due to previous water level measurements not being representative of the aquifer. 	<ul style="list-style-type: none"> • Remove MW013 from the SAQP and following the finalisation of the remediation works and demobilisation the well should be reinstalled. Remove MW223 from the SAQP and install a replacement well as it is located on the boundary of the Base. • Take new bolts to replace damaged bolts including MW226 during next sampling event. • Remove gauging of MW244 from the SAQP. Sediment has previously been removed from this well and has not resulted in any change to the water levels, therefore further redevelopment is not recommended.
<p><u>Sediment/Surface Water:</u> Access to sampling locations</p>	<ul style="list-style-type: none"> • All co-located surface water and sediment locations were accessible, with the exception of SW/SD019 which had been filled in with cobbles. 	Remove SW/SD019 from the SAQP.
<p><u>Analytical Results</u></p>	<p><u>2023 Dry Season Sampling Event:</u> PFAS were detected above laboratory LOR in:</p> <ul style="list-style-type: none"> • 75 of 80 groundwater samples • 33 of 34 surface water samples • 40 of 41 sediment samples. <p>Anomalous analytical results were identified in two on-Base groundwater sampling locations (MW015 and MW021) and one on-Base sediment sampling location (SD016). These locations were resampled and results were consistent with historical results.</p>	Ongoing monitoring in accordance with the OMP.

Item	Comment	Recommended Actions
<u>First-time detections of PFOS, PFOA or Sum of PFOS+PFHxS</u>	First-time detections were recorded in two off-Base sediment samples: <ul style="list-style-type: none"> • SD129 (PFOA) • SD201 (PFOS and Sum of PFOS+PFHxS). PFAS was detected in co-located surface water samples during this and historical monitoring rounds at both SW/SD129 and SW/SD201	Ongoing monitoring in accordance with the OMP.
<u>New exceedances of screening criteria for PFOS, PFOA or Sum of PFOS+PFHxS</u>	One new exceedance of the NEMP (2020) Interim Freshwater and Interim Marine 95% screening criteria for PFOS was recorded in an on-Base groundwater sample (MW300).	Ongoing monitoring in accordance with the OMP.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for April/May 2024. As per the SAQP (AECOM, 2023), a Rainfall Sampling Event, including selected monitoring wells, will be completed in early 2024 triggered by a large rainfall event.

5.3 Upcoming Ongoing Monitoring Report

The next Ongoing Monitoring Report is scheduled for September 2024.

6.0 References

- AECOM. (2023). *PFAS OMP RAAF Townsville Sampling, Analysis and Quality Plan, Rev 10, updated 16 August 2023*.
- Australian and New Zealand Governments and Australian state and territory governments [ANZG]. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
- Bureau of Meteorology. (2023, October 9). *Rainfall data, weather station 032040*. Retrieved from Climate Data Online.: http://www.bom.gov.au/climate/averages/tables/cw_032040.shtml
- Department of Defence. (2018, as amended July 2021)). *Defence Contamination Management Manual*.
- Department of Defence. (2019). *Routine Environment Water Quality Monitoring Manual*.
- Department of Defence. (2020). *PFAS Management Area Plan - RAAF Townsville*.
- Department of Defence. (May 2021). *PFAS OMP Factual Report Guidance, v2*.
- Department of Health. (2019). *Health Based Guidance Values for PFAS for use in site investigations in Australia, updated September 2019*.
- Heads of Environment Protection Agencies (HEPA). (2020). *PFAS National Environmental Management Plan (NEMP), version 2.0 - January 2020*.
- National Health and Medical Research Council (NHMRC). (2019). *Guidance on PFAS in Recreational Water*.
- NEPC. (1999, as amended May 2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guidance on Site Characterisation*.
- Standards Australia. (1998). *AS/NZS 5667.11-1998: Water Quality - Sampling - Guidance on Sampling of Groundwaters*.

Appendix A

Figures

Legend

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

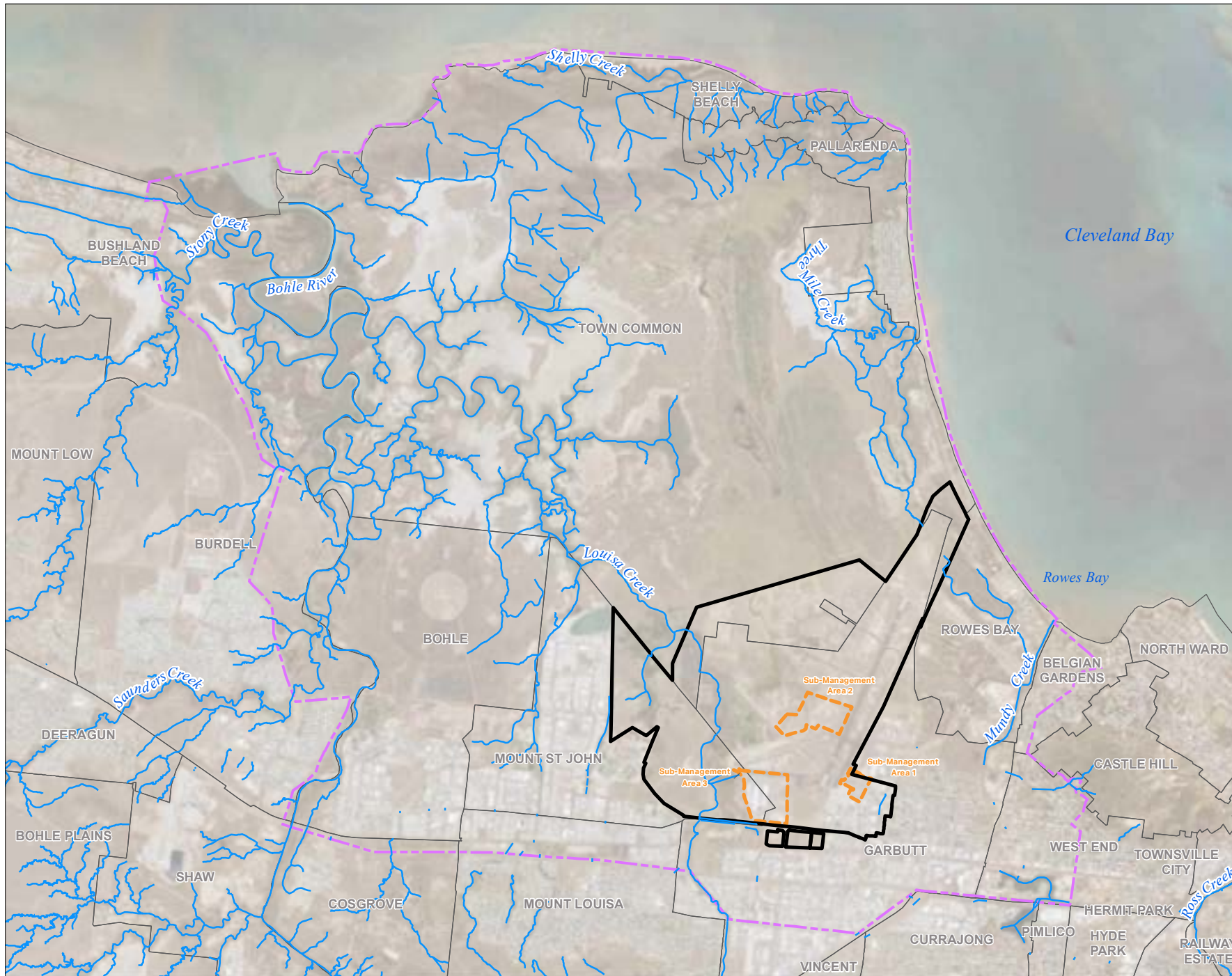


FIGURE 1:
RAAF BASE TOWNSVILLE
LOCATION PLAN

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 PFAS OMP – RAAF Base Townsville,
 Sampling Event Factual Report,
 October 2023
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Off-Base Monitoring Well
- On-Base Monitoring Well
- Lost/Inaccessible Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright License). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

- Catchment Boundaries
- Management Area
- Sub-Management Area
- Watercourse line
- Monitoring Area
- Off-base Surface
- Water/Sediment Locations
- On-Base Surface
- Water/Sediment Locations
- Inaccessible Surface
- Water/Sediment Locations



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

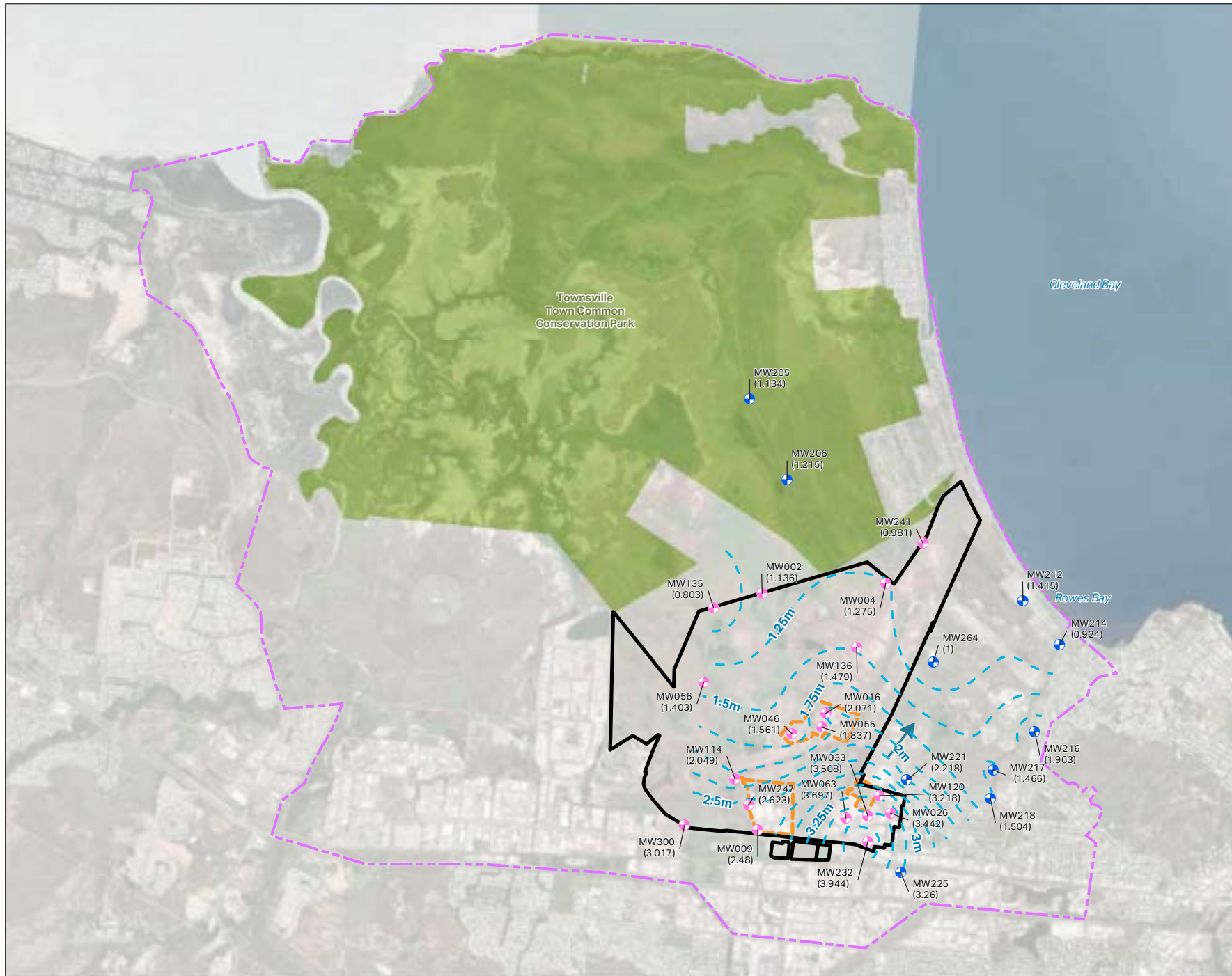
Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence) AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- ➔ Inferred Groundwater Flow Direction



**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS -
DRY SEASON -
10 OCTOBER 2023**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

Management Area

Monitoring Area

Sub-Management Area

First time detection of PFOA

First time detection of PFOS and Sum of PFOS+PFHxS

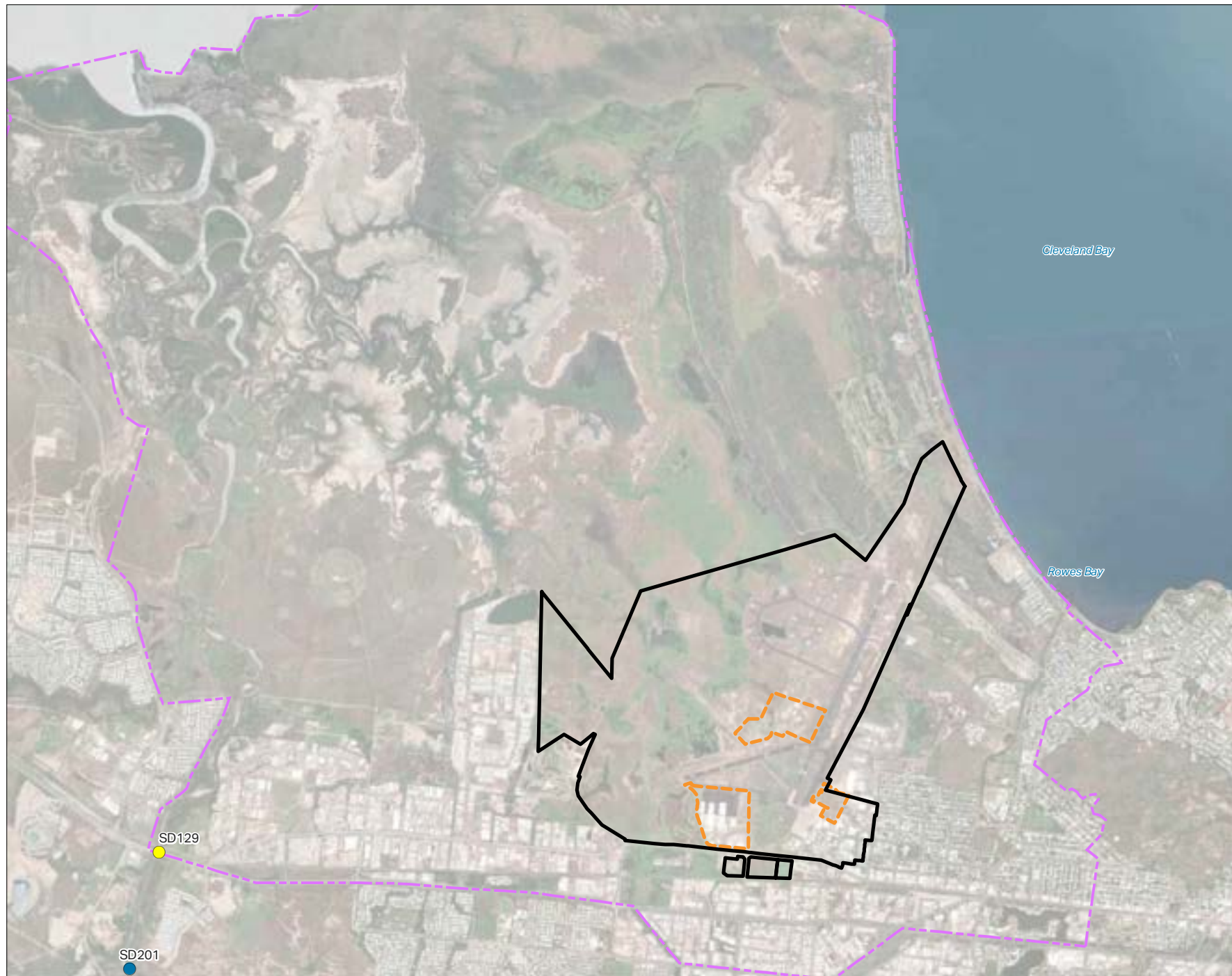


FIGURE 5:
FIRST-TIME DETECTIONS
OF PFOA, PFOS, OR Sum
of PFOS+PFHxS ABOVE
LOR IN SEDIMENT

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

- Management Area
- Monitoring Area
- Sub-Management Area

- New Exceedance of Ecological Screening Criteria for PFOS in Groundwater

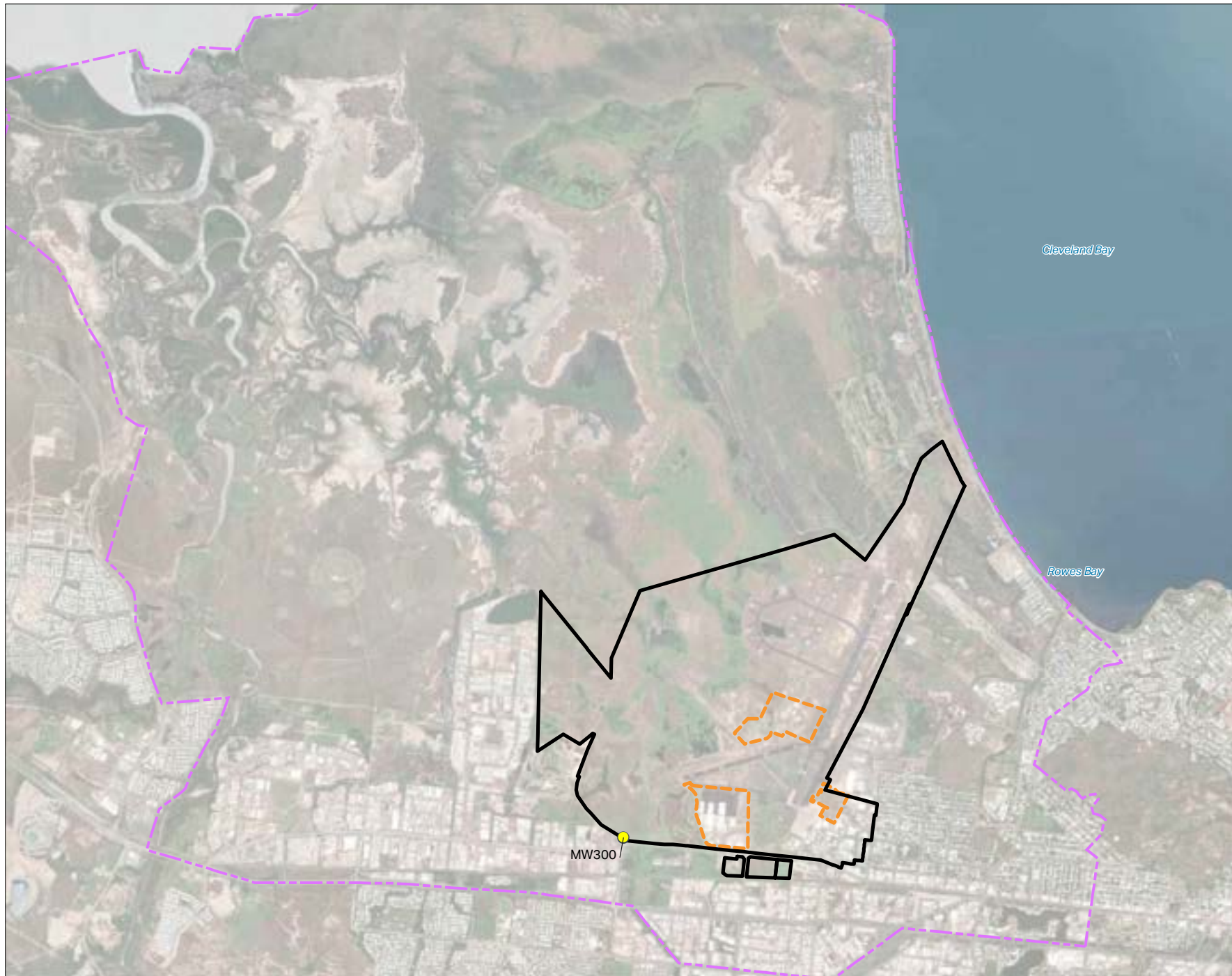


FIGURE 6:
NEW EXCEEDANCE OF
ECOLOGICAL SCREENING
CRITERIA FOR PFOS IN
GROUNDWATER

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Appendix B

Analytical Tables

T1: Groundwater Gauging

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)
0874	MW002	10/10/2023	10:00	4.655	0.730	1.866	1.136
0874	MW004	10/10/2023	09:46	5.020	1.906	3.181	1.275
0874	MW009	10/10/2023	11:10	4.775	1.040	3.520	2.480
0874	MW016	10/10/2023	14:21	3.536	1.379	3.450	2.071
0874	MW026	10/10/2023	12:16	4.865	1.722	5.164	3.442
0874	MW033	10/10/2023	12:43	3.895	2.352	5.860	3.508
0874	MW046	10/10/2023	13:51	4.410	1.283	2.844	1.561
0874	MW055	10/10/2023	14:05	4.896	1.726	3.563	1.837
0874	MW056	10/10/2023	10:27	5.415	1.552	2.955	1.403
0874	MW063	10/10/2023	11:43	5.287	1.155	4.852	3.697
0874	MW114	10/10/2023	10:37	5.150	1.276	3.325	2.049
0874	MW120	10/10/2023	12:05	5.736	1.331	4.549	3.218
0874	MW135	10/10/2023	10:13	5.641	1.472	2.275	0.803
0874	MW136	10/10/2023	14:35	5.700	1.344	2.823	1.479
0874	MW205	10/10/2023	09:10	4.985	2.105	3.239	1.134
0874	MW206	10/10/2023	09:30	4.389	2.065	3.280	1.215
0874	MW212	10/10/2023	10:10	4.040	1.420	2.835	1.415
0874	MW214	10/10/2023	10:30	4.901	2.739	3.663	0.924
0874	MW216	10/10/2023	11:49	4.239	1.581	3.544	1.963
0874	MW217	10/10/2023	12:14	5.645	1.805	3.271	1.466
0874	MW218	10/10/2023	13:50	5.010	1.404	2.908	1.504
0874	MW221	10/10/2023	14:25	5.339	1.595	3.813	2.218
0874	MW225	10/10/2023	14:55	6.805	2.325	5.585	3.260
0874	MW232	10/10/2023	11:26	4.856	1.823	5.767	3.944
0874	MW241	10/10/2023	09:36	4.643	2.133	3.114	0.981
0874	MW247	10/10/2023	11:01	4.099	1.776	4.399	2.623
0874	MW264	10/10/2023	11:15	5.541	2.190	3.190	1.000
0874	MW300	10/10/2023	08:56	6.693	2.053	5.070	3.017

mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum

T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Previous Well Depth (mbtoc)	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Sub-management area one																						
0874	MW013																					
0874	MW118	6/10/2023	NA	3.22	09/10/2023	4.52	4.561	1.299	4.370	3.071	Good	2.77	1461	6.68	-101.5	103.5	27.8	Low	Light Brown	Rotten egg smell (sulfurous)	No sheen	
Sub-management area two																						
0874	MW005	06/10/2023	NA	4.42	11/10/2023	5.72	7.436	2.439	3.922	1.483	Good	1.82	75114	6.77	27.1	232.1	28.1	Clear	Clear	No odour	No sheen	
0874	MW015	09/10/2023	NA	2.11	11/10/2023	3.407	3.390	1.343	3.343	2.000	Good	3.74	5442	7.29	54.6	259.6	29.6	Medium	Light Brown	No odour	No sheen	
0874		15/11/2023	NA	2.11	17/11/2023	3.407	3.400	1.473	3.343	1.870	Good	3.43	6127	6.94	229.0	434	30.0	Medium	Brown	No odour	No sheen	Resample
0874	MW016	09/10/2023	NA	2.24	10/10/2023	3.543	3.536	1.378	3.450	2.072	Good	-	6323	6.82	-87.2	117.8	30.4	Low	Light Brown	No odour	No sheen	
0874		09/10/2023	NA	1.96	11/10/2023	3.26	3.244	1.385	3.301	1.916	Good	2.23	9850	6.97	-56.9	148.1	30.3	Low	Light Brown	No odour	No sheen	
0874	MW021	15/11/2023	NA	1.96	17/11/2023	3.26	3.25	1.498	3.301	1.803	Good	2.96	11260	6.98	-74.1	130.9	33.3	Low	Clear	No odour	No sheen	Resample
0874	MW046	06/10/2023	NA	3.12	10/10/2023	4.42	4.410	1.268	2.844	1.576	Good	2.88	7715	7.74	58.8	263.8	26.5	Clear	Clear	No odour	No sheen	
0874	MW054	06/10/2023	NA	4.32	11/10/2023	5.62	5.613	1.7	3.669	1.969	Good	1.78	8973	8.15	24.6	229.6	30.4	Clear	Clear	No odour	No sheen	
0874	MW055	06/10/2023	NA	3.62	10/10/2023	4.92	4.896	1.727	3.563	1.836	Good	2.12	3556	8.13	-7.8	197.2	29.4	Clear	Clear	No odour	No sheen	
0874	MW081	06/10/2023	NA	3.65	11/10/2023	4.95	4.901	1.345	3.408	2.063	Good	2.37	11752	7.34	11.4	216.4	28.5	Low	Clear	No odour	No sheen	
0874	MW090	06/10/2023	NA	1.58	11/10/2023	2.88	2.912	0.67	3.303	2.633	Good	2.23	1599	8.06	-28.6	176.4	29.4	Medium	Light Brown	No odour	No sheen	
0874	MW109	06/10/2023	NA	4.54	11/10/2023	5.84	5.804	1.612	3.255	1.643	Good	3.05	26967	7.41	90.6	295.6	27.2	Clear	Clear	No odour	No sheen	
0874	MW110	06/10/2023	NA	3.38	11/10/2023	4.68	4.852	1.114	2.853	1.739	Good	2.01	29755	6.89	-12.9	192.1	27.5	Low	Light Brown	No odour	No sheen	
0874	MW138	09/10/2023	3-6	4.68	11/10/2023	5.98	6.877	2.252	2.903	0.651	Good	1.98	44599	6.84	-57.6	147.4	27.6	Low	Light Brown	No odour	No sheen	
0874	MW139	09/10/2023	3-6	4.69	11/10/2023	5.99	5.991	1.783	3.443	1.660	Good	1.73	22646	7.40	-30.4	174.6	29.6	Clear	Clear	No odour	No sheen	
0874	MW246	06/10/2023	1-7	5.86	11/10/2023	7.16	7.185	1.721	3.901	2.180	Good	2.24	39593	6.38	103	308	28.4	Low	Clear	No odour	No sheen	
0874	MW250	06/10/2023	1-6	3.73	09/10/2023	5.03	5.006	2.173	3.916	1.743	Good	1.88	7978	7.19	51.8	256.8	26.2	Low	Light Brown	No odour	No sheen	
0874	MW251	06/10/2023	0.7-6.7	5.73	09/10/2023	7.03	6.991	1.679	3.440	1.761	Good	2.53	39238	6.39	126.5	331.5	27.5	Low	Light Brown	No odour	No sheen	
Sub-management area three																						
0874	MW009	04/10/2023	NA	3.49	10/10/2023	4.79	4.775	1.063	3.520	2.457	Good	2.21	22286	6.58	89.6	294.6	27.7	Clear	Clear	No odour	No sheen	
0874	MW038	04/10/2023	NA	3.30	12/10/2023	4.6	4.608	0.845	4.734	3.889	Good	2.16	2602	7.60	-108.4	96.6	28.2	Clear	Clear	No odour	No sheen	
0874	MW043	04/10/2023	NA	4.41	11/10/2023	5.71	5.686	1.211	3.613	2.402	Good	1.35	61600	6.24	71.8	276.8	28.5	Low	Clear	No odour	No sheen	
0874	MW114	04/10/2023	NA	3.85	10/10/2023	5.15	5.150	1.295	3.325	2.030	Good	2.83	2909	6.78	-25.9	179.1	27.3	Low	Clear	No odour	No sheen	
0874	MW125	04/10/2023	5-11	8.35	11/10/2023	9.65	9.625	2.001	4.617	2.616	Good	1.87	79586	5.85	53.1	258.1	28.6	Low	Clear	Rotten egg smell (sulfurous)	No sheen	
0874	MW142	06/10/2023	3-6	4.80	09/10/2023	6.1	6.084	1.091	3.169	2.078	Good	2.38	58268	6.28	123.3	328.3	27.6	Clear	Clear	No odour	No sheen	
0874	MW247	04/10/2023	0.8-3.5	2.79	10/10/2023	4.09	4.099	1.879	4.399	2.520	Good	3.31	650	6.55	56.6	260.6	27.3	Low	Clear	No odour	No sheen	
0874	MW248	04/10/2023	1-4	2.29	12/10/2023	3.59	3.573	1.492	3.943	2.451	Good	2.7	16074	6.92	46.3	251.3	27.8	Medium	Light Brown	No odour	No sheen	
Remaining On-Base																						
0874	MW002	04/10/2023	NA	3.38	10/10/2023	4.68	4.655	0.69	1.866	1.176	Good	2.83	1908	6.36	-62.8	142.2	26.1	Low	Clear	Rotten egg smell (sulfurous)	Biosheen Appearance	
0874	MW004	04/10/2023	NA	3.93	10/10/2023	5.23	5.020	1.882	3.181	1.299	Good	3.31	893	7.20	-33.6	171.4	26.8	Low	Clear	Slight Organic Odour	No sheen	
0874	MW026	05/10/2023	NA	3.57	10/10/2023	4.87	4.865	1.725	5.164	3.439	Good	3.69	349.2	8.10	-0.3	204.7	30.2	Medium	Light Grey	No odour	No sheen	
0874	MW033	05/10/2023	NA	2.62	10/10/2023	3.92	3.895	2.355	5.860	3.505	Good	3.38	1137	7.74	-6.5	198.5	30.1	Medium	Light Grey	No odour	No sheen	
0874	MW034	05/10/2023	NA	2.49	10/10/2023	3.79	3.766	1.988	5.434	3.446	Good	2.34	15196	6.69	-37.2	167.8	30.9	Low	Light Grey	No odour	No sheen	
0874	MW056	04/10/2023	NA	4.12	10/10/2023	5.42	5.415	1.518	2.955	1.437	Good	2.76	30663	6.36	21.6	226.6	24.1	Low	Clear	Slight Organic Odour	No sheen	
0874	MW057	04/10/2023	NA	4.94	09/10/2023	6.24	6.205	1.485	3.114	1.929	Good	2.96	53854	6.60	-6	199	25.3	Clear	Clear	No odour	No sheen	
0874	MW061	04/10/2023	NA	4.18	12/10/2023	5.48	5.467	1.35	4.688	3.318	Good	2.28	3230	7.26	-62.6	142.4	28.9	Clear	Clear	No odour	No sheen	
0874	MW063	04/10/2023	NA	4.01	10/10/2023	5.31	5.287	1.157	4.852	3.695	Good	3.12	7607	7.14	28.9	233.9	28.8	Clear	Clear	No odour	No sheen	
0874	MW112	04/10/2023	NA	4.08	09/10/2023	5.38	5.374	1.549	3.300	1.751	Good	3.12	29564	6.11	-80.4	124.6	26.4	Low	Light Brown	No odour	No sheen	
0874	MW120	06/10/2023	NA	4.46	10/10/2023	5.76	5.736	1.345	4.549	3.204	Good	3.15	3200	7.43	-1.3	203.7	29.8	Clear	Clear	No odour	No sheen	
0874	MW122	04/10/2023	1.5-4.5	5.08	11/10/2023	6.38	6.355	1.503	2.451	0.948	Good	2.11	33655	6.27	-13.1	191.9	27.3	Clear	Clear	Rotten egg smell (sulfurous)	No sheen	
0874	MW135	04/10/2023	1.5-4.5	4.36	10/10/2023	5.66	5.641	1.456	2.275	0.819	Good	1.86	32244	6.45	-87.2	117.8	27.4	Low	Clear	Slight Organic Odour	No sheen	
0874	MW136	09/10/2023	NA	4.40	10/10/2023	5.7	5.700	1.256	2.823	1.567	Good	2.7	1632	7.64	31	236	27.7	Clear	Clear	No odour	No sheen	
0874	MW140	06/10/2023	NA	10.90	09/10/2023	12.2	12.155	1.417	2.728	1.311	Good	2.56	64511	6.06	68.3	273.3	26.3	Clear	Clear	No odour	No sheen	
0874	MW222	05/10/2023	1.2-8	6.55	12/10/2023	7.85	7.857	1.225	4.588	3.343	Good	1.69	6330	5.81	-33.5	171.5	26.5	Clear	Clear	Rotten egg smell (sulfurous)	No sheen	
0874	MW223	06/10/2023																				
0874	MW224	04/10/2023	2.2-8.2	6.85	12/10/2023	7.95	7.825	1.468	5.001	3.533	Good	1.76	15735	6.53	66	271	28.1	Low	Clear	No odour	No sheen	
0874	MW226	05/10/2023	1.5-6.5	5.08	12/10/2023	6.38	6.445	1.493	5.172	3.679	Good	1.68	18817	6.21	-105.6	99.4	27.7	Clear	Clear	Rotten egg smell (sulfurous)	No sheen	Need to replace 2 x bolts due to being damaged by mower
0874	MW227	05/10/2023	1-8	6.53	12/10/2023	7.83	7.843	1.516	4.693	3.177	Good	1.71	21624	6.39	-81.3	123.7	26.9	Clear	Clear	Rotten egg smell (sulfurous)	No sheen	
0874	MW229	05/10/2023	1-9.7	8.56	12/10/2023	9.86	9.875	2.336	5.387	3.051	Good	-	22146	6.10	-72.4	132.6	27.4	Low	Clear	No odour	No sheen	
0874	MW232	04/10/2023	1-5	3.47	10/10/2023	4.77	4.856	1.835	5.767	3.932	Good	2.51	3997	7.50	-111.6	93.4	27.5	Medium	Grey	Rotten egg smell (sulfurous)	No sheen	
0874	MW234	05/10/2023	1-6	6.05	12/10/2023	7.35	7.126	2.185	3.216	1.031	Good	1.79	92411	6.32	-22	183	27	Clear	Clear	No odour	No sheen	
0874	MW241	04/10/2023</																				

T3: Groundwater PFAS Analytical Results

Per- and Poly-fluoroalkyl Substances

			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)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Sum of PFHxS and PFOS	Sum of PFAS			
			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
LOR			0.05	0.05																															
PFAS NEMP 2020 Drinking Water																																			
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																			
Location ID	Sample ID	Date																																	
Sub-Management Area One																																			
MW118	0874 MW118 231009	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.06	<0.02	0.5	<0.02	<0.02	0.1	0.03	0.62	0.72	0.37	0.35	<0.05	<0.02	<0.02	<0.02	<0.02	1.63	0.12	2.35	5.5		
Sub-Management Area Two																																			
MW005	0874 MW005 231011	11/10/2023	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	32	<0.5	6.6	<0.5	<0.5	11.8	33	118	670	20.6	42.2	<1.25	<0.5	<0.5	<0.5	<0.5	326	20	996	1280		
MW015	0874 MW015 231011	11/10/2023	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<2.4	<0.48	<0.48	<0.48	<0.48	<0.48	0.52	2.86	<0.48	<0.48	<1.19	<0.48	<0.48	<0.48	<0.48	3.1	<0.48	5.96	6.48		
MW015*	0874 MW015 231117	17/11/2023	<0.50	<0.50	<0.50	<0.50	<1.24	<0.50	<1.24	<0.50	<1.24	<0.50	<1.24	18.5	5.4	<0.50	<0.50	<0.50	5.65	11.5	45.4	192	8.87	22.8	<1.24	<0.50	<0.50	<0.50	76.8	9.47	269	396			
MW016	0874 MW016 231010	10/10/2023	<0.69	<0.69	<0.69	<0.69	<1.72	<0.69	<1.72	<0.69	<1.72	<0.69	<1.72	19.5	<0.69	6.6	<0.69	<0.69	6.62	17.3	53.2	286	9.86	26.2	<1.72	<0.69	<0.69	<0.69	220	13.8	506	659			
MW021	0874 MW021 231011	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.02	0.09	0.19	1.3	0.03	0.07	<0.05	<0.02	<0.02	<0.02	1.17	0.07	2.47	2.99			
MW021*	0874 MW021 231117	17/11/2023	<8.40	<8.40	<8.40	<8.40	<21.0	<8.40	<21.0	<8.40	<21.0	<8.40	<21.0	544	205	<8.40	<8.40	<8.40	233	959	1840	11500	346	821	<21.0	<8.40	<8.40	<8.40	9580	694	21,100	26,700			
MW046	0874 MW046 231010	10/10/2023	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	5.2	<0.5	<2.5	<0.5	<0.5	2.65	9.45	41.6	150	4.55	10	<1.25	<0.5	<0.5	<0.5	111	7.7	261	342			
MW054	0874 MW054 231011	11/10/2023	<0.24	<0.24	<0.24	<0.24	<0.6	<0.24	<0.6	<0.24	<0.6	<0.24	<0.6	3.52	<0.24	<1.2	<0.24	<0.24	0.62	1.52	6.86	21.3	1.4	3.55	<0.6	<0.24	<0.24	<0.24	62.2	1.52	83.5	102			
MW055	0874 MW055 231010	10/10/2023	<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	6	<5	<25	<5	<5	<5	<5	<5	15	43	<5	<5	<12.5	<5	<5	<5	107	<5	150	171		
MW081	0874 MW081 231011	11/10/2023	<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	76.5	<5	<25	<5	<5	32	164	234	1760	29	114	<12.5	<5	<5	<5	1710	91	3470	4210			
MW090	0874 MW090 231011	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.09	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.42	1.05	0.13	0.06	<0.12	<0.05	<0.05	<0.05	2.97	<0.05	4.02	4.72		
MW109	0874 MW109 231011	11/10/2023	<2.3	8.94	<2.3	<2.3	<5.76	<2.3	<5.76	<2.3	<5.76	<2.3	<5.76	68	<2.3	22.6	<2.3	<2.3	<2.3	20.7	44	202	559	42.2	73	<5.76	<2.3	<2.3	1220	48.2	1780	2310			
MW110	0874 MW110 231011	11/10/2023	<1	1.96	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	18.4	<1	7.2	<1	<1	6.1	16.6	56.1	214	15.9	22.1	<2.5	<1	<1	<1	334	13.1	548	705			
MW138	0874 MW138 231011	11/10/2023	<0.91	1.83	<0.91	<0.91	<2.27	1.73	<2.27	<0.91	<2.27	2.27	<2.27	60.5	<0.91	24.2	<0.91	1.64	20.1	48.8	180	689	36.5	80.5	4.09	2.18	1.36	<0.91	814	44.4	1500	2010			
MW139	0874 MW139 231011	11/10/2023	<1	12.4	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	32.9	<1	13.4	<1	<1	17.2	27.6	105	250	22.6	37.4	<2.5	<1	<1	<1	656	36	906	1210			
MW246	0874 MW246 231011	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.26	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.4	0.01	0.66	0.84			
MW250	0874 MW250 231009	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	<0.02	0.1	<0.02	<0.02	0.06	0.1	0.8	2.94	0.2	0.48	<0.05	<0.02	<0.02	<0.02	2.3	0.11	5.24	7.88			
MW251	0874 MW251 231009	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.13	<0.01	0.31	0.37		
Sub-Management Area Three																																			
MW009	0874 MW009 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.87	<0.02	0.5	<0.02	<0.02	0.62	1.38	5.1	16.7	0.91	2.3	<0.06	<0.02	<0.02	<0.02	42.3	2.28	59	74			
MW038	0874 MW038 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.32	<0.02	<0.1	<0.02	<0.02	0.1	0.1	0.47	2.79	0.12	0.41	<0.06	<0.02	<0.02	<0.02	2.38	0.16	5.17	6.85			
MW043	0874 MW043 231011	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.28	<0.05	0.4	<0.05	<0.05	0.88	1.11	7.64	28.2	1.06	1.91	<0.12	<0.05	<0.05	<0.05	24	3.81	52.2	70.3			
MW114	0874 MW114 231010	10/10/2023	<0.06	<0.06	<0.06	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	0.83	<0.06	<0.3	<0.06	<0.06	0.22	0.55	1.55	6.04	0.35	0.76	<0.15	<0.06	<0.06	<0.06	26.5	0.66	32.5	37.4			
MW125	0874 MW125 231011	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.58	<0.05	<0.2	<0.05	<0.05	0.23	0.69	2.83	15.5	0.39	0.89	<0.12	<0.05	<0.05	<0.05	31.8	0.45	47.3	53.4			
MW142	0874 MW142 231009	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.03		
MW247	0874 MW247 231010	10/10/2023	<0.24	<0.24	<0.24	<0.24	<0.6	<0.24	<0.6	<0.3	<0.6	<0.24	<0.6	<0.92	<0.24	<1.2	<0.24	<0.24	0.4	1.12	3.93	13.6	0.4	1.21	<0.6	<0.24	<0.24	<0.24	64.3	1.64	77.9	86.6			
MW248	0874 MW248 2310																																		

T3: Groundwater PFAS Analytical Results

		Per- and Poly-fluoroalkyl Substances																																
		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)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EFOSE)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	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		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Drinking Water																																		
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																		

Location ID	Sample ID	Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFHxS and PFOS	Sum of PFAS		
Off-Base																																		
MW205	0874 MW205 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.03		
MW206	0874 MW206 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	2.05	<0.02	0.7	<0.02	<0.02	<0.02	0.33	0.17	5.03	12.4	0.91	1.98	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	12.4	23.7
MW207	0874 MW207 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	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	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	0.03
MW208	0874 MW208 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.14	0.25
MW211	0874 MW211 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.04
MW212	0874 MW212 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02
MW213	0874 MW213 231013	13/10/2023	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.06	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.26
MW214	0874 MW214 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03
MW215	0874 MW215 231013	13/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.01	0.04	0.07
MW216	0874 MW216 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.08	0.08
MW217	0874 MW217 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01
MW218	0874 MW218 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.02	<0.1	<0.02	<0.02	<0.02	0.05	0.14	0.68	4.74	0.09	0.13	<0.05	<0.02	<0.02	<0.02	1.96	0.07	6.7	8	
MW219	0874 MW219 231013	13/10/2023	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.1	
MW221	0874 MW221 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.02	<0.1	<0.02	<0.02	<0.02	0.03	0.05	0.35	1.22	0.07	0.23	<0.05	<0.02	<0.02	<0.02	0.76	0.06	1.98	3.06	
MW225	0874 MW225 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.2	<0.01	0.27	0.27	
MW233	0874 MW233 231013	13/10/2023	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.09	
MW252	0874 MW252 231013	13/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
MW253	0874 MW253 231013	13/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.04	
MW263	0874 MW263 231013	13/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.12	0.01	0.21	0.27
MW264	0874 MW264 231010	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.53	<0.02	0.12	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.56	0.91	
MW267	0874 MW267 231013	13/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.21	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.14	0.01	0.35	0.53	
MW301	0874 MW301 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.14	0.02	0.14	0.19	
MW467	0874 MW467 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.05	0.05	
MW471	0874 MW471 231012	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05									

T4: Surface Water Field Parameters

Property ID	Sample ID	Field ID	Sampling Event	Sample Date	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
On-Base															
Bohle River/Louisa Creek/Town Common															
0874	SW013														Location DRY
0874	SW014	0874_SW014_231011	Dry season	11/10/2023	1.16	1427	7.21	-47.6	157.4	24.5	Turbid	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874	SW016														Location DRY
0874	SW019														Location DRY, redeveloped with cobbles, no water or sediment
0874	SW112	0874_SW112_231011	Dry season	11/10/2023	3.57	1577	6.64	15.6	220.6	28.9	Low	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874	SW123	0874_SW123_231011	Dry season	11/10/2023	5	5661	7.99	-	-	30.8	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW125														Location DRY
0874	SW126	0874_SW126_231011	Dry season	11/10/2023	5.68	890	8.33	25.6	230.6	28	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW131	0874_SW131_231011	Dry season	11/10/2023	10.81	2306	8.34	89.8	294.8	29.3	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
Mundy Creek															
0874	SW001	0874_SW001_231011	Dry season	11/10/2023	9.14	2150	8.37	65.5	270.5	29.6	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW010	0874_SW010_231011	Dry season	11/10/2023	4.93	778	7.13	75.4	280.4	30.9	Medium	Light Olive Brown 2.5Y 5/4	No odour	No sheen	New cobble drain
0874	SW106	0874_SW121_231011	Dry season	11/10/2023	4.21	105434	8.15	66.1	271.1	32.2	Low	Light Olive Brown 2.5Y 5/4	No odour	Biosheen Appearance	
0874	SW121														Location DRY
0874	SW132	0874_SW132_231011	Dry season	11/10/2023	16.38	1929	9.35	54.5	259.5	29.5	Medium	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
Three Mile Creek															
0874	SW102														Location DRY
Off-Base															
Bohle River/Louisa Creek/Town Common															
0874	SW017	0874_SW017_231009	Dry season	9/10/2023	3.35	1380	7.42	-55.9	149.1	28.7	Low	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW021	0874_SW021_231009	Dry season	9/10/2023	4.8	501	7.41	76.4	281.4	29.2	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW110	0874_SW110_231012	Dry season	12/10/2023	5.63	3907	7.89	28.7	233.7	27.4	Medium	Dark Olive Brown 2.5Y 3/3	Slight Organic Odour	No sheen	
0874	SW111	0874_SW111_231012	Dry season	12/10/2023	1.45	4717	7.27	-100.8	104.2	30.8	Turbid	Dark Olive Brown 2.5Y 3/3	Slight Organic Odour	No sheen	
0874	SW120														Location DRY
0874	SW127	0874_SW127_231009	Dry season	9/10/2023	1.66	1212	7.11	24.1	229.1	25.9	Low	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW129	0874_SW129_231009	Dry season	9/10/2023	4.8	25663	7.44	187.9	392.9	27	Low	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW201	0874_SW201_231009	Dry season	9/10/2023	4.24	12035	7.66	127.5	332.5	29.5	Clear	Pale yellow 5Y 8/3	No odour	No sheen	
0874	SW202	0874_SW202_231006	Dry season	6/10/2023	3.74	45850	7.35	91.1	296.1	27.8	Low	Brown 7.5YR 4/3	Organic Odour		
0874	SW203	0874_SW203_231006	Dry season	6/10/2023	4.42	54647	7.64	78.1	283.1	28.4	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW204	0874_SW204_231006	Dry season	6/10/2023	4.44	56301	7.74	90.9	295.9	27.9	Low	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW205	0874_SW205_231006	Dry season	6/10/2023	2.56	12536	7.08	70.2	275.2	27.5	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	Could not access point. sample taken 50m downstream
0874	SW206	0874_SW206_231006	Dry season	6/10/2023	3.41	33962	7.2	96.5	301.5	27.1	Low	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW207	0874_SW207_231006	Dry season	6/10/2023	3.77	43397	7.14	4.5	209.5	26.2	Low	Brown 7.5YR 4/3	No odour	No sheen	
Mundy Creek															
0874	SW108	0874_SW108_231012	Dry season	12/10/2023	5.56	99475	8.65	64.5	269.5	32.3	Low	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874	SW109	0874_SW108_231012	Dry season	12/10/2023	4.16	50680	7.83	33.5	238.5	25.8	Low	Light Olive Brown 2.5Y 5/4	Organic Odour	No sheen	
0874	SW113	0874_SW108_231009	Dry season	9/10/2023	3.43	14742	2.8	467.2	672.2	31.5	Medium	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW114														Location DRY
0874	SW115	0874_SW108_231003	Dry season	3/10/2023	5.65	5315	7.44	170.4	375.4	30.8	Medium	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW116	0874_SW108_231012	Dry season	12/10/2023	3.89	46030	7.6	8.9	213.9	27.4	Low	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874	SW117	0874_SW108_231009	Dry season	9/10/2023	1.29	1709	7.36	-40.9	164.1	27.7	Low	Brown 7.5YR 4/3	Organic Odour	No sheen	
0874	SW118	0874_SW108_231009	Dry season	9/10/2023	4.71	1721	6.99	94.2	299.2	31.4	Low	Brown 7.5YR 4/3	Organic Odour	No sheen	
0874	SW119	0874_SW108_231009	Dry season	9/10/2023	9.84	1837	9.75	11.8	216.8	31.7	Low	Light Olive Brown 2.5Y 5/4	Organic Odour	-	
0874	SW208	0874_SW108_231012	Dry season	12/10/2023	1.76	59074	6.72	-84.3	120.7	27.2	Medium	Light Olive Brown 2.5Y 5/4	Organic Odour	No sheen	
0874	SW209	0874_SW108_231011	Dry season	11/10/2023	6.53	101948	8.12	47.7	252.7	32	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
Three Mile Creek															
0874	SW107	0874_SW107_231012	Dry season	12/10/2023	7.18	128971	7.8	63.1	268.1	33.5	Turbid	Dark Olive Brown 2.5Y 3/3	Organic Odour	Sheen	
0874	SW210	0874_SW210_231012	Dry season	12/10/2023	2.88	52717	7.65	151.1	356.1	25.1	Low	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celcius
 "-" denotes no data recorded/data lost

T5: Surface Water PFAS Analytical Results

				Per- and Poly-fluoroalkyl Substances																																
				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)	N-Ethyl perfluorooctane sulfonamide (EiFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOsAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	Perfluorooctane sulfonamide (FOsA)	N-Methyl perfluorooctane sulfonamide (MeFOsA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOsAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDoDA)	Perfluorooheptanoic acid (PFHpA)	Perfluorooheptane sulfonic acid (PFHps)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHs)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFHs 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				0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																				
PFAS NEMP 2020 Recreational Water																																				
Location ID	Sample ID	Lab Report Number	Date																																	
On Base																																				
Bohle River/Louisa Creek/Town Common																																				
SW014	0874 SW014 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.01	0.14	0.14
SW112	0874 SW112 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05
SW123	0874 SW123 231011	ET2304975	11/10/2023	<0.21	<0.21	<0.21	<0.21	<0.52	<0.21	<0.52	<0.21	<0.52	<0.21	<0.52	2	<1.2	<0.21	<0.21	<0.21	<0.21	0.6	1	6.35	12.4	1.29	1.9	<0.52	<0.21	<0.21	<0.21	<0.21	<0.21	62.8	1.27	75.2	89.6
SW126	0874 SW126 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	0.65	<0.3	<0.04	<0.04	<0.04	<0.04	0.12	0.19	1.31	3.15	0.29	0.59	<0.11	<0.04	<0.04	<0.04	<0.04	5.65	0.25	8.8	12.2	
SW131	0874 SW131 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.22	<0.2	<0.02	<0.02	<0.02	<0.02	0.05	0.06	0.54	1.38	0.12	0.2	<0.06	<0.02	<0.02	<0.02	<0.02	1.29	0.08	2.67	3.94	
Mundy Creek																																				
SW001	0874 SW001 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.39	<0.2	<0.05	<0.05	<0.05	<0.05	0.09	0.2	0.84	3.33	0.19	0.48	<0.12	<0.05	<0.05	<0.05	<0.05	8.29	0.27	11.6	14.1	
SW010	0874 SW010 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.27	0.02	0.35	0.41	
SW106	0874 SW106 231011	ET2304975	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.19	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.67	0.02	0.86	0.88	
SW132	0874 SW132 231011	ET2304975	11/10/2023	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	<0.07	<0.18	<0.07	<0.18	1.34	<0.6	<0.07	<0.07	<0.07	<0.07	0.59	0.36	3.12	6.92	0.67	1.28	<0.18	<0.07	<0.07	<0.07	<0.07	8.86	1.14	15.8	24.3	
Off-Base																																				
Bohle River/Louisa Creek/Town Common																																				
SW017	0874 SW017 231009	ET2304975	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	0.01	0.1	0.11	
SW021	0874 SW021 231009	ET2304975	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
SW110	0874 SW110 231012	ET2304975	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.04	<0.5	<0.02	<0.02	<0.02	0.24	0.13	3.12	5.38	0.51	0.96	<0.06	<0.02	<0.02	<0.02	<0.02	0.88	0.31	6.26	12.6		
SW111	0874 SW111 231012	ET2304975	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.81	<0.4	<0.02	<0.02	<0.02	0.15	0.11	2.2	4.11	0.43	0.73	<0.06	<0.02	<0.02	<0.02	<0.02	1.13	0.22	5.24	9.89		
SW127	0874 SW127 231009	ET2304975	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
SW129	0874 SW129 231009	ET2304975	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
SW201	0874 SW201 231009	ET2304975	9/10/2023	<0.05	0.17	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.18	
SW202	0874 SW202 231006	ET2304829	6/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
SW203	0874 SW203 231006	ET2304829	6/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
SW204	0874 SW204 231006	ET2304829	6/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.02	0.02	
SW205	0874 SW205 231006	ET2304829	6/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.1	0.13	
SW206	0874 SW206 231006	ET2304829	6/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.11	0.14	
SW207	0874 SW207 231006	ET2304829	6/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.09	0.09	
Mundy Creek																																				
SW108	0874 SW108 231012	ET2304975	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.06	0.08	
SW109	0874 SW109 231012	ET2304975	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05																						

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle River/Louisa Creek/Town Common				
0874	SD013	11/10/2023	CLAY, stiff, light brown with orange mottling, low plasticity, dry.	No odour
0874	SD014	11/10/2023	CLAY, soft, dark grey, high plasticity, with coarse subangular gravels, saturated.	No odour
0874	SD016	11/10/2023	CLAY, loose, light brown with grey mottling, low plasticity, dry.	No odour
0874		17/11/2023*	Silty Clay, brown, medium plasticity, soft, dry.	No odour
0874	SD019	11/10/2023	Location DRY, redeveloped with cobbles, no water or sediment.	
0874	SD112	11/10/2023	Sandy CLAY, soft, light grey/green, high plasticity, fine sand, saturated.	Slight organic odour
0874	SD123	11/10/2023	CLAY, soft, dark brown, low plasticity, with coarse subangular gravels.	No odour
0874	SD125	11/10/2023	Silty CLAY, soft, light brown, low plasticity, fine loose silt, dry.	No odour
0874	SD126	11/10/2023	GRAVEL, dark grey/yellow, coarse subangular, poorly sorted, saturated.	No odour
0874	SD131	11/10/2023	CLAY, soft, light grey, high plasticity, saturated.	No odour
Mundy Creek				
0874	SD001	11/10/2023	GRAVEL, green/orange/grey, fine, poorly sorted, saturated.	No odour
0874	SD010	11/10/2023	CLAY, soft, dark brown, high plasticity, saturated. Rootlets present.	No odour
0874	SD106	11/10/2023	CLAY, soft, dark grey, high plasticity, saturated.	Slight organic odour
0874	SD121	11/10/2023	CLAY, soft, dark brown with grey mottling, high plasticity, moist.	No odour
0874	SD132	11/10/2023	GRAVEL, loose, grey/green, fine to coarse subangular, moist.	No odour
Three Mile Creek				
0874	SD102	11/10/2023	CLAY, soft, black, medium plasticity, moist.	Slight organic odour
Off-Base				
Bohle River/Louisa Creek/Town Common				
0874	SD017	9/10/2023	GRAVEL, dark grey, fine, subangular.	No odour
0874	SD021	9/10/2023	Sandy CLAY, soft, light grey, low plasticity, trace fine subangular gravels.	No odour
0874	SD110	12/10/2023	CLAY, stiff, dark grey, high plasticity, saturated.	Strong organic odour
0874	SD111	12/10/2023	CLAY, soft, dark grey with black mottling, high plasticity, saturated.	Slight organic odour
0874	SD120	9/10/2023	SAND, coarse, yellow, poorly sorted.	No odour
0874	SD127	9/10/2023	Gravelly SAND, coarse, grey/yellow, low plasticity, fine gravel, saturated.	No odour
0874	SD129	9/10/2023	CLAY, soft, dark grey, high plasticity with trace fine sands, saturated.	No odour
0874	SD201	9/10/2023	Gravelly SAND, soft, light brown, medium grained sand, fine gravel, saturated.	No odour
0874	SD202	6/10/2023	Silty SAND, dense, light brown, medium grained sand, saturated.	Organic odour
0874	SD203	6/10/2023	Silty CLAY, dense, dark grey, fine silt, saturated.	No odour
0874	SD204	6/10/2023	Silty CLAY, dense, dark grey, fine silt, saturated.	No odour
0874	SD205	6/10/2023	Silty CLAY, dense, dark brown/grey, fine silt, saturated.	No odour
0874	SD206	6/10/2023	Silty CLAY, dense, dark brown, fine silt, saturated.	No odour
0874	SD207	6/10/2023	Silty CLAY, dense, dark grey, fine silt, saturated.	Organic/hydrogen sulfide odour
Mundy Creek				
0874	SD108	12/10/2023	Sandy CLAY, soft, dark grey, high plasticity, coarse poorly graded sand, saturated.	Slight organic odour
0874	SD109	12/10/2023	SAND, light brown/yellow, coarse grained, well sorted, saturated.	No odour
0874	SD113	9/10/2023	CLAY, soft, dark grey, low plasticity.	Organic odour
0874	SD114	9/10/2023	CLAY, firm, light grey with light orange mottling, medium plasticity.	No odour
0874	SD115	3/10/2023	Sandy CLAY, dense, brown, fine sand, moist.	No odour
0874	SD116	12/10/2023	Sandy CLAY, soft, light grey, low plasticity, coarse grained, poorly graded sand.	No odour
0874	SD117	9/10/2023	CLAY, soft, black, low plasticity, with fine subangular gravels.	Organic odour
0874	SD118	9/10/2023	CLAY, soft, black, low plasticity, with trace loose silt.	Organic odour
0874	SD119	9/10/2023	Silty SAND, loose, dark grey, coarse subangular grained sand, fine silt, saturated.	Organic odour
0874	SD208	12/10/2023	CLAY, soft, dark grey, high plasticity, with coarse subrounded gravels, saturated.	Slight organic odour
0874	SD209	11/10/2023	CLAY, soft, dark grey, high plasticity, saturated.	Slight organic odour
Three Mile Creek				
0874	SD107	12/10/2023	CLAY, soft, dark grey with black mottling, high plasticity.	Strong organic odour
0874	SD210	12/10/2023	CLAY, medium density, dark grey, high plasticity, fine trace sands, saturated.	No odour

*Resample

T7: Sediment PFAS Analytical Results

				Per- and Poly-fluoroalkyl Substances																															
				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)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorooheptanoic acid (PFHpA)	Perfluorooheptane sulfonic acid (PFHpS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	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	mg/kg
LOR				0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Location ID Sample ID Date																																			
On-Base																																			
Bohle River/Louisa Creek/Town Common																																			
SD013	0874	SD013	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004	0.0024	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0159	<0.0002	0.0183	0.0194
SD014	0874	SD014	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003
SD016	0874	SD016	231011	11/10/2023	<0.0503	<0.0503	<0.0503	<0.0503	<0.126	<0.0503	<0.126	<0.0503	<0.126	<0.0506	2.84	42.7	24.8	<0.0503	4.74	<0.0503	14.1	82.9	110	488	33.6	18.7	<0.126	<0.0503	<0.0503	2.82	7130	78.6	7620	8030	
SD016*	0874	SD016	231117	17/11/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0054	0.0003	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0269	0.0004	0.0323	0.0354	
SD112	0874	SD112	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.0008	0.0008		
SD123	0874	SD123	231011	11/10/2023	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	0.0082	<0.005	<0.001	<0.001	0.0012	0.0058	0.0514	0.0264	0.469	0.0042	0.0142	<0.0025	<0.001	<0.001	0.988	0.0432	1.46	1.61		
SD125	0874	SD125	231011	11/10/2023	<0.005	<0.005	<0.005	<0.005	<0.0124	<0.005	<0.0124	<0.005	<0.0124	<0.005	<0.0124	0.181	0.057	<0.005	<0.005	0.0056	0.0625	0.161	0.177	0.0825	0.0292	<0.0124	<0.005	<0.005	8.94	0.0159	9.12	9.71			
SD126	0874	SD126	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0008	0.0003	0.0059	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0685	<0.0002	0.0744	0.076		
SD131	0874	SD131	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0016	0.001	0.0072	<0.0002	<0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0994	0.0007	0.107	0.11		
Mundy Creek																																			
SD001	0874	SD001	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0008	0.0007	0.0064	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0596	0.0006	0.066	0.0695	
SD010	0874	SD010	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0004	<0.001	0.0004	<0.0005	0.0005	<0.0002	<0.0002	0.0004	0.0019	<0.0003	<0.0002	<0.0005	<0.0002	0.0003	0.0004	0.0561	0.0003	0.058	0.0603	
SD106	0874	SD106	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0003	0.0003	<0.0002	0.0006	<0.0002	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.146	<0.0002	0.148	0.148	
SD121	0874	SD121	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0008	0.0041	<0.0002	0.0007	0.0006	0.01	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0522	0.0003	0.0622	0.0694	
SD132	0874	SD132	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0007	0.0016	0.0072	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0518	0.0027	0.059	0.066	
Three Mile Creek																																			
SD102	0874	SD102	231011	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0156	0.004	<0.0002	<0.0008	<0.0002	0.0013	0.0036	0.018	0.0923	0.0038	0.0106	<0.0005	<0.0002	<0.0002	<0.0002	0.179	0.0025	0.271	0.331	
Off-Base																																			
Bohle River/Louisa Creek/Town Common																																			
SD017	0874	SD017	231009	9/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
SD021	0874	SD021	231009	9/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0009	<0.0002	0.0009	0.0009	
SD110	0874	SD110	231012	12/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0018	<0.001	<0.0002	<0.0002	0.0005	0.0003	0.0025	0.0034	0.0235	<0.0004	0.0022	<0.0005	<0.0002	<0.0002	<0.0002	0.134	0.0011	0.158	0.17	
SD111	0874	SD111	231012	12/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0026	<0.001	<0.0002	<0.0002	<0.0002	0.0006	0.0016	0.0068	0.0285	0.0012	0.0031	<0.0005	<0.0002	<0.0002	<0.0002	0.0906	0.0011	0.119	0.136	
SD120	0874	SD120	231009	9/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003	
SD127	0874	SD127	231009	9/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	0.0006	<0.0002	<0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006
SD129	0874	SD129	231009	9/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0043	0.0003	0.0046	0.0051	
SD201	0874	SD201	231009	9/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0003	<0			

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															
PFAS NEMP 2020 Drinking Water																															

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Drinking Water																																

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																	0.56	0.07
Location ID	Sample Date																																	
MW054	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	<0.02	50	1.19	77.7	102		
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2		
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7		
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	<0.02	0.04	93.7	1.44	126	152		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99			
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.34	<0.5	<0.10	<0.10	<0.10	0.87	2.48	10.5	31.8	1.05	4.72	<0.25	<0.10	<0.10	<0.10	102	1.96	134	161			
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.11	<0.05	<0.02	<0.05	5.29	1.6	<0.02	<0.02	<0.02	0.93	2.24	11.1	33.3	2.32	5.06	<0.05	<0.02	<0.02	0.07	87.9	1.96	121	152			
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.45	<2.5	<0.50	<0.50	<0.50	0.75	2.4	9.05	30.2	1.9	4.7	<1.25	<0.50	<0.50	<0.50	88	1.65	118	143			
	7/09/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.08	1.5	<0.25	<0.25	<0.25	1	2.5	12	33.4	2.48	4.7	<0.62	<0.25	<0.25	<0.25	88.7	2.15	122	154			
	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7			
	13/10/2021	<0.47	<0.47	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	5.9	<2.4	<0.47	<0.47	<0.47	1.32	3.11	13.6	37.4	2.69	5.85	<1.18	<0.47	<0.47	<0.47	124	2.41	161	196			
	21/04/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	3.69	<1.2	<0.23	<0.23	<0.23	0.68	2.01	7.61	22.9	1.91	3.99	<0.58	<0.23	<0.23	<0.23	82.8	1.82	106	127			
	11/10/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.38	0.8	<0.1	<0.1	<0.1	0.62	1.84	9.09	25	1.8	3.55	<0.25	<0.1	<0.1	<0.1	79.4	1.5	104	127			
	26/04/2023	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	2	<0.5	<0.1	<0.1	<0.1	0.38	1.11	3.77	13.3	0.98	2.21	<0.25	<0.1	<0.1	<0.1	45.9	0.74	59.2	70.4			
	11/10/2023	<0.24	<0.24	<0.24	<0.24	<0.6	<0.24	<0.6	<0.24	<0.6	<0.24	<0.6	3.52	<0.24	<1.2	<0.24	<0.24	0.62	1.52	6.86	21.3	1.4	3.55	<0.6	<0.24	<0.24	<0.24	62.2	1.52	83.5	102			
	MW055	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	3.37	<0.05	<0.02	<0.05	14.1	4	<0.02	<0.02	<0.02	4.65	7.31	37.6	96.2	6.56	15	<0.05	<0.02	<0.02	0.39	194	12.3	290	396		
16/04/2018		<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.38	0.75	3.36	11.8	0.65	1.4	<0.05	<0.02	<0.02	0.03	39.9	1.07	51.7	61.2			
18/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.66	<0.050	<0.0200	<0.050	6.87	0.184	<0.0200	<0.0200	<0.0200	2.45	4.3	23.9	59.3	3.87	8.52	<0.0500	<0.0200	<0.0200	0.206	139	7.54	198	257			
29/04/2019		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	1.02	<0.25	<0.10	<0.25	5.08	<0.5	<0.10	<0.10	<0.10	1.65	2.87	13.5	40.7	0.67	5.05	<0.25	<0.10	<0.10	<0.10	122	5.07	163	198			
16/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.88	<0.05	<0.02	<0.05	7.22	2.7	<0.02	<0.02	<0.02	2.5	3.56	22.4	63.2	4.32	7.94	<0.05	<0.02	<0.02	0.21	132	7.09	195	254			
27/04/2020		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	8.75	<2.5	<0.50	<0.50	<0.50	2.55	3.3	20.9	60.7	4.05	9.65	<1.25	<0.50	<0.50	<0.50	118	7.4	179	235			
7/09/2020		<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.39	<0.61	<0.24	<0.61	9.85	3.1	<0.24	<0.24	<0.24	3	3.61	25.2	61.5	5.05	8.95	<0.61	<0.24	<0.24	<0.24	109	8.54	170	238			
28/04/2021		<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	6.88	<2.3	<0.45	<0.45	<0.45	3.27	4.04	20.4	64.4	5.09	11.1	<1.14	<0.45	<0.45	<0.45	170	8.14	234	293			
13/10/2021		<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	1.19	<1.24	<0.5	<1.24	9.26	4.2	<0.5	<0.5	<0.5	3.62	5.55	29	74.5	5.5	10.5	<1.24	<0.5	<0.5	<0.5	200	10	274	353			
21/04/2022		<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	11.8	3	<0.5	<0.5	<0.5	3.95	5.2	32	80.4	6.25	12.2	<1.25	<0.5	<0.5	<0.5	196	9.8	276	361			
10/10/2022		<0.53	<0.53	<0.53	<0.53	<1.33	<0.53	<1.33	<0.53	<1.33	<0.53	<1.33	8.46	<2.6	<0.53	<0.53	<0.53	3.14	4.04	25.7	75.9	5.21	9.1	<1.33	<0.53	<0.53	<0.53	153	8.24	229	293			
26/04/2023		<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.63	<0.61	<0.24	<0.61	4.29	<1.2	<0.24	<0.24	<0.24	1.27	2.46	10.8	33.1	2.98	4.68	<0.61	<0.24	<0.24	<0.24	94.8	3.71	128	159			
10/10/2023		<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	6	<5	<25	<5	<5	<5	<5	15	43	<5	<5	<12.5	<5	<5	<5	107	<5	150	171			
MW081		16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	256	12.2	<0.02	<0.02	<0.02	81.1	131	822	4,050	33.2	324	<0.05	<0.02	<0.02	0.17	2,310	130	6,360	8,150		
		24/01/2018	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	457	26.3	0.11	0.6	<0.02	204	515	1,390	8,520	152	826	<0.05	<0.02	<0.02	0.96	3,280	348	11,800	15,700		
		16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.19	<0.12	<0.05	<0.12	127	19.8	0.1	0.33	<0.05	55.4	158	432	3,320	45.9	306	<0.12	<0.05	<0.05	<0.50	1,800	125	5,120	6,510		
	16/04/2018	-	-	-	-	-	-	-	<0.50	-	-	-	141	86	<0.50	<0.50	-	58.4</																

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW109	29/06/2017	<0.05	3.98	<0.05	<0.05	<0.05	<0.02	<0.05	0.66	<0.05	<0.02	<0.05	153	42.5	<0.02	<0.02	<0.02	9.77	73	252	911	65.4	122	<0.05	<0.02	<0.02	0.09	1,360	68	2,270	3,060	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.9	0.4	<0.05	<0.05	<0.05	0.46	0.46	3.9	15.4	0.96	2.78	<0.12	<0.05	<0.05	<0.05	22.9	0.92	38.3	50.1	
	15/08/2017	0.07	5	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	89.8	34.5	<0.02	0.03	<0.02	23.6	46.2	199	517	40.4	72.3	<0.05	<0.02	<0.02	0.3	781	46.4	1,300	1,860	
	15/08/2017	0.07	13.8	<0.05	<0.05	<0.12	<0.05	<0.12	0.48	<0.12	<0.05	<0.12	72.1	27.4	<0.05	<0.05	<0.05	22.4	45.6	201	501	35.1	68.3	<0.12	<0.05	<0.05	0.32	765	38.8	1,270	1,790	
	24/01/2018	<0.05	4.56	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	73.2	48.2	0.04	0.24	<0.02	21.8	54.8	215	583	37.4	67.2	<0.05	<0.02	<0.02	<0.02	1,200	50	1,780	2,380	
	16/04/2018	<0.10	<0.50	<0.10	<0.10	<0.25	<0.10	<0.25	0.25	<0.25	<0.10	<0.25	48.9	25.5	<0.10	<0.10	<0.10	13.2	28.4	127	304	31.3	50.8	<0.25	<0.10	<0.10	0.22	632	33.3	970	1,360	
	16/04/2018	-	6.23	-	-	-	-	-	<0.50	-	-	-	49.6	46.4	-	-	-	17.2	38	220	350	41.2	51.6	-	-	-	<0.50	666	39.8	982	1,460	
	19/12/2018	0.042	6.13	<0.020	<0.020	<0.050	<0.020	<0.050	0.248	<0.050	<0.0200	<0.050	67.6	3.16	0.03	0.04	<0.0200	20.6	50.7	196	494	33.8	81.3	<0.0500	<0.0200	<0.0200	0.252	683	36.8	1,180	1,670	
	29/04/2019	<0.05	6.22	<0.05	<0.05	<0.12	<0.05	<0.12	0.32	<0.12	<0.05	<0.12	101	0.4	<0.05	0.07	<0.05	21.6	63	279	767	14.9	97.9	<0.12	<0.05	<0.05	0.06	1,340	46	2,110	2,740	
	17/10/2019	<0.10	7.8	0.12	<0.10	<0.25	<0.10	<0.25	0.37	<0.25	<0.10	<0.25	73.5	29.8	<0.10	<0.10	22.6	42	195	578	38.1	71	<0.25	<0.10	<0.10	0.29	779	44.4	1,410	1,980		
	27/04/2020	<5.00	6.5	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	60.5	<25.0	<5.00	<5.00	<5.00	12.5	35	127	416	26.5	55	<12.5	<5.00	<5.00	<5.00	668	30.5	1,080	1,440	
	11/09/2020	<1.58	3.01	<1.58	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	31.7	9.7	<1.58	<1.58	<1.58	8.87	18.7	75.2	216	15.5	27.2	<3.96	<1.58	<1.58	<1.58	348	17.6	564	771	
	29/04/2021	<2	2	<2	<2	<5	<2	<5	<2	<5	<2	<5	18	10	<2	<2	<2	6.6	14.2	48.6	139	9.6	16	<5	<2	<2	<2	404	11.4	543	679	
	13/10/2021	<2.5	14	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	85	40.5	<2.5	<2.5	<2.5	28.8	58.8	260	607	47.5	83	<6.25	<2.5	<2.5	<2.5	1050	53.2	1660	2330	
	21/04/2022	<0.5	4.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	33.7	13.4	<0.5	<0.5	<0.5	10.7	19.2	89.2	210	18.1	29	<1.25	<0.5	<0.5	<0.5	454	21.4	664	903	
11/10/2022	<0.25	12.4	<0.4	<0.25	<0.62	<0.25	<0.62	0.8	<0.62	<0.25	<0.62	62	30.8	<0.25	<0.25	<0.25	21.7	55.7	242	572	43.3	72	<0.62	<0.25	<0.25	<0.25	1000	46.8	1570	2160		
26/04/2023	<0.83	12.8	<0.83	<0.83	<2.08	<0.83	<2.08	1	<2.08	<0.83	<2.08	60.2	24.4	<0.83	<0.83	<0.83	22.2	56.2	172	480	38.3	66.7	<2.08	<0.83	<0.83	0.83	1510	45.5	1990	2490		
11/10/2023	<2.3	8.94	<2.3	<2.3	<5.76	<2.3	<5.76	<2.3	<5.76	<2.3	<5.76	68	<2.3	22.6	<2.3	<2.3	20.7	44	202	559	42.2	73	<5.76	<2.3	<2.3	<2.3	1220	48.2	1780	2310		
MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000	
	15/08/2017	<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750	
	16/04/2018	<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480	
	18/12/2018	0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390	
	29/04/2019	<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610	
	17/10/2019	0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060	
	27/04/2020	<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320	
	11/09/2020	<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	67.7	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233	
	13/10/2021	<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587	
	21/04/2022	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	7.64	1.7	<0.22	<0.22	<0.22	2.85	8.88	20.7	108	3.67	10	<0.56	<0.22	<0.22	<0.22	132	6.17	240	302	
	12/10/2022	<0.5	1.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15.6	8.4	<0.5	<0.5	<0.5	6.55	10.8	63	182	17.4	17.4	<1.25	<0.5	<0.5	<0.5	222	10	404	555	
	26/04/2023	<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	5.23	<2.3	<0.45	<0.45	<0.45	4.36	5.86	28.9	131	10.5	7.95	<1.14	<0.45	<0.45	<0.45	114	7.45	245	315	
	11/10/2023	<1	1.96	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	18.4	<1	7.2	<1	<1	6.1	16.6	56.1	214	15.9	22.1	<2.5	<1	<1	<1	334	13.1	548	705	
	MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546
29/07/2017		<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060	
15/08/2017		<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370	
30/04/2019		<0.05	0.12	0.16	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	31.3	1.29	5		

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																0.56	0.07	
Location ID	Sample Date																																	
MW250	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.69	<0.2	<0.05	<0.05	<0.05	0.42	0.9	6.78	16	1.27	2.8	<0.12	<0.05	<0.05	<0.05	<0.05	14.2	0.58	30.2	45.6		
	16/04/2018	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.52	0.6	<0.05	<0.05	<0.05	0.28	0.6	3.86	11.8	0.74	1.88	<0.12	<0.05	<0.05	<0.05	<0.05	14.2	0.44	2.6	37		
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	3.08	0.096	<0.0200	<0.0200	<0.0200	0.304	0.608	4.67	14	0.74	2.21	<0.0500	<0.0200	<0.0200	<0.0200	8.59	0.522	22.6	34.8		
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.22	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.19	1.5	0.03	0.14	<0.05	<0.02	<0.02	<0.02	0.56	0.02	2.06	2.69		
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.81	0.2	<0.02	<0.02	<0.02	0.08	0.14	1.11	3.83	0.23	0.57	<0.05	<0.02	<0.02	<0.02	2.44	0.12	6.27	9.53		
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.69	0.1	<0.02	<0.02	<0.02	0.03	0.07	0.53	2.22	0.12	0.33	<0.05	<0.02	<0.02	<0.02	1.66	0.05	3.88	5.8		
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.03	<0.09	<0.03	<0.09	<0.03	<0.09	<0.03	1.25	0.2	<0.03	<0.03	<0.03	0.12	0.25	1.86	5.66	0.38	0.89	<0.09	<0.03	<0.03	<0.03	5.16	0.2	10.8	16		
	21/04/2021	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.47	0.1	<0.02	<0.03	<0.02	0.03	0.07	0.54	2.87	0.15	0.32	<0.05	<0.02	<0.02	<0.02	1.51	0.05	4.38	6.23		
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	1.29	0.2	<0.02	<0.02	<0.02	0.11	0.31	1.78	6.24	0.36	1	<0.05	<0.02	<0.02	<0.02	4.38	0.18	10.6	15.8		
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.5	0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.33	1.82	0.1	0.27	<0.05	<0.02	<0.02	<0.02	1	0.03	2.82	4.1		
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.4	<0.1	<0.02	<0.02	<0.02	0.02	0.06	0.49	1.91	0.1	0.24	<0.05	<0.02	<0.02	<0.02	1	0.03	2.91	4.25		
	28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.29	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.2	1.5	0.07	0.17	<0.06	<0.02	<0.02	<0.02	0.26	<0.02	1.76	2.52		
	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.79	<0.02	0.1	<0.02	<0.02	0.06	0.1	0.8	2.94	0.2	0.48	<0.05	<0.02	<0.02	<0.02	2.3	0.11	5.24	7.88		
	MW251	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	1.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	1.18	1.18		
		16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	2.7	<0.5	<0.10	<0.10	<0.10	0.27	0.4	3.73	10.3	0.67	2.19	<0.25	<0.10	<0.10	<0.10	7.03	0.35	17.3	27.6		
19/12/2018		-	-	-	-	-	-	-	0.056	-	-	-	9	5.57	-	-	-	1.42	2.85	31.6	47.6	6.37	6.92	-	-	-	0.038	33.6	1.99	75.7	130			
29/04/2019		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.34	<0.2	<0.05	<0.05	<0.05	0.2	0.26	3.08	8.04	0.16	1.74	<0.12	<0.05	<0.05	<0.05	3.99	0.23	12	20			
17/10/2019		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.56	<0.5	<0.10	<0.10	<0.10	<0.10	0.87	1.92	0.15	0.41	<0.25	<0.10	<0.10	<0.10	1.46	<0.10	3.38	5.37				
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.21	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.43	1.77	0.06	0.22	<0.05	<0.02	<0.02	<0.02	0.82	0.06	2.59	3.69		
10/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.14	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.26	0.72	0.04	0.12	<0.05	<0.02	<0.02	<0.02	0.31	0.02	1.03	1.65		
29/04/2021		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.48	<0.2	<0.05	<0.05	<0.05	0.21	0.27	2.34	6.76	0.4	1.2	<0.12	<0.05	<0.05	<0.05	1.75	0.24	8.51	14.6			
11/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.36		
20/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.18	<0.01	0.43	0.54		
11/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.28	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.3	<0.01	0.58	0.71		
28/04/2023		<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.37	<0.1	<0.02	<0.02	<0.02	0.03	0.1	0.56	1.8	0.1	0.33	<0.06	<0.02	<0.02	<0.02	1.44	0.06	3.24	4.79		
9/10/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.13	<0.01	0.31	0.37		
Sub-Management Area Three																																		
MW009		30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.44	<0.05	<0.02	<0.05	1.52	0.2	<0.02	<0.02	<0.02	0.24	0.73	2.54	9.94	0.3	1.4	<0.05	<0.02	<0.02	<0.02	18.8	0.8	28.7	36.9		
	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.12	<0.05	<0.02	<0.05	0.82	0.1	<0.02	<0.02	<0.02	0.2	0.23	1.52	7.77	0.37	1.25	<0.05	<0.02	<0.02	<0.02	12.7	0.62	20.5	25.7			
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.26	0.64	2.1	9.31	0.41	1.26	<0.05	<0.02	<0.02	<0.02	11.3	0.97	20.6	27.7			
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	0.7	<0.2	<0.05	<0.05	<0.05	0.18	0.37	1.36	5.43	0.24	0.63	<0.12	<0.05	<0.								

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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					
LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																0.56	0.07	
Location ID	Sample Date																																	
MW248	17/08/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	98.6	<0.5	<0.10	<0.10	<0.10	<0.10	9.52	74.6	97.9	475	18.9	73.3	<0.25	<0.10	<0.10	0.17	693	36.6	1,170	1,580		
	24/01/2018	<0.05	0.23	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	7	<5.0	0.03	<0.02	<0.02	<0.02	1.8	6.5	17.7	73.7	<1.00	7.8	<0.05	<0.02	<0.02	<0.02	107	6.5	181	228		
	19/04/2018	-	<1.00	-	-	-	-	-	-	-	-	-	70	43.2	-	-	-	-	15.2	83	446	727	66.7	73	-	-	-	-	<1.00	1,510	61	2,240	2,720	
	19/12/2018	<0.020	0.108	<0.020	<0.020	<0.050	<0.0200	<0.050	0.172	<0.050	<0.0200	<0.050	40.9	0.738	0.028	0.026	<0.0200	10.7	62.4	119	468	13	58.2	<0.0500	<0.0200	<0.0200	0.552	794	40.4	1,260	1,610			
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.06	<0.12	<0.05	<0.12	33.4	5.1	<0.05	<0.05	<0.05	8.33	48.7	87.2	348	11.5	46.8	<0.12	<0.05	<0.05	0.13	828	27.3	1,180	1,440			
	15/10/2019	<0.10	0.36	<0.10	<0.10	<0.25	<0.10	<0.25	0.65	<0.25	<0.10	<0.25	10.5	1.1	<0.10	<0.10	<0.10	2.43	6.27	22.9	85.5	4.36	8.76	<0.25	<0.10	<0.10	<0.10	86.1	6.1	172	235			
	28/04/2020	<2.50	<2.50	<2.50	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	34.2	<12.5	<2.50	<2.50	<2.50	9	46.2	97.8	491	12.5	48	<6.25	<2.50	<2.50	<2.50	725	32.2	1,220	1,500			
	10/09/2020	<0.36	1.18	<0.36	<0.36	<0.89	<0.36	<0.89	<0.36	<0.89	<0.36	<0.89	37.5	6.5	<0.36	<0.36	<0.36	8.29	31	89.2	350	14.1	40.5	<0.89	<0.36	<0.36	<0.36	206	28.3	556	812			
	6/05/2021	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	36.2	<12.5	<2.5	<2.5	<2.5	10.2	46.5	106	432	16.8	43.8	<6.25	<2.5	<2.5	<2.5	1110	41	1540	1840			
	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	0.68	<0.62	<0.25	<0.62	13.4	2.6	<0.25	<0.25	<0.25	3.75	14.9	34.6	145	6.1	17	<0.62	<0.25	<0.25	<0.25	180	10.3	325	428			
	21/04/2022	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	40.9	7.7	<1	<1	<1	10.5	72.8	114	500	14.9	47.9	<2.5	<1	<1	<1	1140	45.2	1640	1990			
	11/10/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	0.66	<0.58	<0.23	<0.58	19	4.2	<0.23	<0.23	<0.23	5.04	25.6	68.7	242	8.62	24.4	<0.58	<0.23	<0.23	<0.23	412	19.2	654	829			
	4/05/2023	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	23.9	<5	<1	<1	<1	6	32.4	73.2	320	10.8	34.9	<2.5	<1	<1	<1	705	25	1020	1230			
	12/10/2023	<1	<1	<1	<1	<2.5	<1	<2.5	1.1	<2.5	<1	<2.5	21.4	<1	<5	<1	<1	5.5	21.8	54.9	230	8.1	27.7	<2.5	<1	<1	<1	428	19.3	658	818			
MW249	17/08/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	8.58	<0.25	<0.10	<0.25	6.29	<0.5	<0.10	<0.10	<0.10	1.28	2.33	15.2	37	2.8	3.69	<0.25	<0.10	<0.10	<0.10	118	3.88	155	199			
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.37	0.2	<0.02	<0.02	<0.02	0.08	0.11	0.41	2.47	0.11	0.36	<0.05	<0.02	<0.02	<0.02	1.93	0.13	4.4	6.17				
	19/12/2018	-	-	-	-	-	-	-	-	-	-	5.7	46.3	25.7	0.11	0.71	-	18.8	18.9	393	457	49.8	47.3	-	-	<0.100	0.694	411	58.1	836	1,420			
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	5.02	<0.05	<0.02	<0.05	8.25	1.8	0.03	2.13	<0.02	3.54	5	45.5	93.4	5.15	10.9	<0.05	<0.02	0.03	0.09	150	13.4	243	344			
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.56	<0.05	<0.02	<0.05	8.4	3.8	0.03	0.25	<0.02	4.82	4.32	35.4	96.8	7.91	9.52	<0.05	<0.02	<0.02	0.21	129	11.1	226	315			
Remaining On-Base																																		
MW002	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.1	0.11	0.8	2.79	0.18	0.42	<0.05	<0.02	<0.02	<0.02	3.13	0.16	5.92	8.07			
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	<0.1	<0.02	<0.02	<0.02	0.12	0.13	0.87	3.75	0.21	0.5	<0.05	<0.02	<0.02	<0.02	4.04	0.21	7.79	10.2			
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.1	0.18	1	2.97	0.2	0.35	<0.05	<0.02	<0.02	<0.02	2.58	0.17	5.55	7.81			
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.68	<0.2	<0.05	<0.05	<0.05	0.1	0.14	1.12	4.01	0.22	0.51	<0.12	<0.05	<0.05	<0.05	2.66	0.16	6.67	9.6			
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.732	<0.020	<0.0200	<0.0200	0.078	0.096	0.952	2.62	0.18	0.508	<0.0500	<0.0200	<0.0200	<0.0200	1.46	0.104	4.08	6.73				
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.09	0.12	0.86	2.71	0.13	0.37	<0.05	<0.02	<0.02	<0.02	2.51	0.11	5.22	7.28			
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.1	<0.02	<0.02	<0.02	0.09	0.17	0.88	2.98	0.16	0.31	<0.05	<0.02	<0.02	<0.02	2.02	0.16	5	7.15			
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	<0.02	<0.02	<0.02	0.1	0.2	0.99	3.64	0.14	0.4	<0.05	<0.02	<0.02	<0.02	3.78	0.16	7.42	9.96			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.3	<0.02	<0.02	<0.02	0.13	0.18	1.33	3.5	0.29	0.54	<0.05	<0.02	<0.02	<0.02	3.3	0.22	6.8	10.4			
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.78	0.2	<0.02	<0.02	<0.02	0.08	0.09	1.2	3.01	0.25	0.62	<0.05	<0.02	<0.02	<0.02	1.53	0.1	4.54	7.86			
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.46	0.2	<0.04	<0.04	<0.04	0.14	0.29	1.2	3.64	0.23	0.46	<0.09	<0.04	<0.04	<0.04	4.66	0.24	8.3	11.5			
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.1	<0.02	<0.02	<0.02	0.08	0.16	0.82	2.37	0.15	0.23	<0.05	<0.02	<0.02	<0.02	4.26	0.17	6.63	8.57			
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.12	0.18	1.21	3.19	0.22	0.45	<0.05	<0.02	<0.02	<0.02	2.63	0.18	5.62	8.77			
	27/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.14	0.2	<0.02	<0.02	<0.02	0.13	0.14	1.86	5.36	0.4	1.19	<0.06	<0.02	<0.02	<0.02	1.05	0.14	6.41	11.6			
10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.02	0.1	<0.02	<0.02	0.12	0.15	1.17	2.66	0.23	0.36	<0.05	<0.02	<0.02	<0.02	4.27	0.23	6.93	9.65				
MW004	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.14	0.16				

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																											0.13	220	0.07		
Location ID	Sample Date																														
MW061	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.58	0.3	<0.02	<0.02	<0.02	0.25	0.58	2.12	6.83	<0.02	0.86	<0.05	<0.02	<0.02	<0.02	14.8	0.72	21.6	27
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.67	0.4	<0.02	<0.02	<0.02	0.28	0.64	2.05	6.75	0.43	0.97	<0.05	<0.02	<0.02	<0.02	20.6	0.79	29.4	35.6
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.026	<0.050	<0.0200	<0.050	0.556	0.068	<0.0200	<0.0200	<0.0200	0.216	0.388	1.81	6.24	0.354	0.666	<0.0500	<0.0200	<0.0200	<0.0200	11.9	0.614	18.1	22.8
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	0.44	0.2	<0.02	<0.02	<0.02	0.19	0.48	1.6	5.53	0.28	0.66	<0.05	<0.02	<0.02	<0.02	16.5	0.59	22	26.5
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.51	0.3	<0.02	<0.02	<0.02	0.23	0.48	1.79	7.55	0.35	0.73	<0.05	<0.02	<0.02	<0.02	17.2	0.67	24.8	29.8
	28/04/2020	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.72	0.3	<0.02	<0.02	<0.02	0.22	0.69	1.93	6.63	0.36	0.78	<0.05	<0.02	<0.02	<0.02	19.4	0.7	26	31.9
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.52	0.3	<0.04	<0.04	<0.04	0.21	0.44	1.7	6.53	0.35	0.74	<0.09	<0.04	<0.04	<0.04	11.6	0.7	18.1	23.1
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.05	<0.12	<0.05	<0.12	0.45	0.3	<0.05	<0.05	<0.05	0.21	0.43	1.33	5.93	0.32	0.61	<0.12	<0.05	<0.05	<0.05	12.6	0.55	18.5	22.8
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	0.04	<0.06	<0.02	<0.06	0.53	0.4	<0.02	<0.02	<0.02	0.23	0.47	1.69	7.31	0.38	0.74	<0.06	<0.02	<0.02	<0.02	17.2	0.66	24.5	29.6
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.48	0.4	<0.05	<0.05	<0.05	0.22	0.57	1.57	7.75	0.36	0.71	<0.12	<0.05	<0.05	<0.05	21.4	0.7	29.2	34.2
	13/10/2022	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.32	<1.2	<0.24	<0.24	<0.24	<0.24	0.27	1.54	6.29	<0.24	0.51	<0.61	<0.24	<0.24	<0.24	15.1	0.41	21.4	24.1
	4/05/2023	<0.09	<0.09	<0.09	<0.09	<0.23	<0.09	<0.23	<0.09	<0.23	<0.09	<0.23	0.42	<0.4	<0.09	<0.09	<0.09	0.19	0.61	1.39	6.91	0.26	0.62	<0.23	<0.09	<0.09	<0.09	24.8	0.74	31.7	35.9
	12/10/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	0.41	<0.1	<0.5	<0.1	<0.1	0.14	0.31	1.14	5.91	0.25	0.54	<0.24	<0.1	<0.1	<0.1	17.1	0.55	23	26.4
	MW063	17/08/2017	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.17	0.4	<0.02	<0.02	<0.02	0.43	0.75	3.44	13.3	0.75	1.98	<0.05	<0.02	<0.02	<0.02	17.1	1	30.4
17/04/2018		<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.74	0.8	<0.02	<0.02	<0.02	0.71	1.22	5.41	15.3	1.11	2.4	<0.05	<0.02	<0.02	<0.02	28.3	1.2	43.6	58.5
17/12/2018		<0.020	0.146	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.5	0.126	<0.0200	<0.0200	<0.0200	0.488	0.67	4.37	12.5	0.83	1.51	<0.0500	<0.0200	<0.0200	<0.0200	15.1	0.806	27.6	38
2/05/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.07	0.12	0.56	1.51	0.11	0.23	<0.05	<0.02	<0.02	<0.02	3.46	0.12	4.97	6.38
16/10/2019		<0.05	0.15	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.28	0.2	<0.02	<0.02	<0.02	0.45	0.76	3.5	9.49	0.72	1.19	<0.05	<0.02	<0.02	<0.02	14.2	0.82	23.7	32.8
29/04/2020		<0.05	0.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.55	0.4	<0.02	<0.02	<0.02	0.43	0.99	4.05	10.8	0.74	1.65	<0.05	<0.02	<0.02	<0.02	19.3	0.85	30.1	41.1
10/09/2020		<0.05	0.12	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	1.21	0.5	<0.04	<0.04	<0.04	0.43	0.77	3.18	11.2	0.73	1.41	<0.09	<0.04	<0.04	<0.04	19.3	0.85	30.5	39.7
30/04/2021		<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.16	0.6	<0.05	<0.05	<0.05	0.48	0.71	3.4	10.5	0.74	1.39	<0.12	<0.05	<0.05	<0.05	15.9	0.8	26.4	35.8
13/10/2021		<0.05	0.17	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.23	0.6	<0.02	<0.02	<0.02	0.5	0.99	3.5	12.4	0.72	1.82	<0.06	<0.02	<0.02	<0.02	19.5	0.92	31.9	42.4
21/04/2022		<0.05	0.12	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.34	0.5	<0.05	<0.05	<0.05	0.48	0.82	3.64	12.3	0.91	1.7	<0.12	<0.05	<0.05	<0.05	24.9	1.03	37.2	47.7
12/10/2022		<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.42	0.5	<0.05	<0.05	<0.05	0.54	0.96	3.98	12.6	0.76	1.62	<0.12	<0.05	<0.05	<0.05	21.4	0.94	34	44.8
4/05/2023		<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.31	0.76	2.29	9.72	0.52	1.55	<0.05	<0.02	<0.02	<0.02	16	0.64	25.7	33.2
10/10/2023		<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.46	<0.05	0.2	<0.05	<0.05	0.56	0.9	3.88	13.3	0.88	1.84	<0.12	<0.05	<0.05	<0.05	25.1	1.1	38.4	49.3
MW112		16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.92	<0.2	<0.05	<0.05	<0.05	0.18	<0.05	3.06	3.64	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	0.58	0.08	4.22
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	7.46	1.6	<0.10	<0.10	<0.10	1.06	0.34	19.9	36.2	3.22	6.5	<0.25	<0.10	<0.10	<0.10	21.4	0.58	38.3	79
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	11.7	0.608	<0.0200	0.028	<0.0200	2.96	9.66	36.5	114	4.89	17.3	<0.0500	<0.0200	<0.0200	0.054	54.1	5.45	168	257
	30/04/2021	<0.75	<0.75	<0.75	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	6.33	<3.8	<0.75	<0.75	<0.75	2.79	7.46	29.1	113	3.92	7.76	<1.88	<0.75	<0.75	<0.75	128	6.4	241	305
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.03	<1.2	<0.05	<0.05	<0.05	1.1	3.82	13.6	50.8	1.98	4.76	<0.12	<0.05	<0.05	<0.05	92	2.3	143	173
	12/04/2022	<0.25	<0.2																												

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																	0.56	0.07
Location ID	Sample Date																																	
MW223	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.95	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.22	0.67	4.94	0.23	0.64	<0.05	<0.02	<0.02	<0.02	<0.02	6.64	0.23	11.6	14.6	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	<0.02	0.18	0.17	1.14	4.61	0.27	0.65	<0.05	<0.02	<0.02	<0.02	<0.02	9.89	0.37	14.5	18.3	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.44	<0.020	<0.0200	<0.0200	<0.0200	0.108	0.138	0.612	2.97	0.128	0.328	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	6.73	0.252	9.7	11.7		
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.54	0.2	<0.02	<0.02	<0.02	0.15	0.25	0.99	3.79	0.23	0.49	<0.05	<0.02	<0.02	<0.02	<0.02	16	0.33	19.8	23		
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.45	0.2	<0.02	0.03	<0.02	0.13	0.17	0.92	3.08	0.22	0.56	<0.05	<0.02	<0.02	<0.02	<0.02	6.75	0.21	9.83	12.7		
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	0.42	0.2	<0.04	<0.08	<0.04	0.15	0.14	1.23	3.45	0.25	0.49	<0.1	<0.04	<0.04	<0.04	<0.04	10.8	0.32	14.2	17.4		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.54	0.3	<0.05	<0.05	<0.05	0.22	0.16	1.28	3.38	0.36	0.52	<0.12	<0.05	<0.05	<0.05	<0.05	5.35	0.24	8.73	12.4		
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.2	0.3	<0.04	<0.04	<0.04	0.22	0.09	1.57	1.56	0.31	0.19	<0.09	<0.04	<0.04	<0.04	<0.04	6.87	0.15	8.43	11.5		
	12/04/2022	<0.05	0.09	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.22	0.1	<0.02	<0.02	<0.02	0.17	0.06	1.3	1.61	0.28	0.21	<0.06	<0.02	<0.02	<0.02	<0.02	3.18	0.12	4.79	7.34		
	5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.1	<0.02	0.02	<0.02	0.15	0.18	1.06	2.84	0.23	0.39	<0.05	<0.02	<0.02	<0.02	<0.02	7.12	0.22	9.96	12.7		
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.75	0.2	<0.02	<0.02	<0.02	0.23	0.22	1.42	4.8	0.33	0.86	<0.06	<0.02	<0.02	<0.02	<0.02	5.78	0.3	10.6	14.9			
MW224	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.2	<0.02	<0.02	<0.02	0.03	0.02	0.06	0.43	0.09	0.07	<0.05	<0.02	<0.02	<0.02	0.03	0.36	0.02	0.79	1.33		
	18/04/2018	<0.05	0.13	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.18	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.83	0.08	0.06	<0.12	<0.05	<0.05	0.1	1.2	<0.05	2.03	2.7			
	17/12/2018	<0.002	0.143	0.005	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.11	<0.002	<0.0020	<0.0020	<0.0020	0.0762	0.0142	0.191	0.396	0.239	0.0638	<0.0050	<0.0020	<0.0020	0.101	0.329	0.0356	0.725	1.7			
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.6	<0.02	0.1	<0.05	<0.02	<0.02	<0.02	0.03	0.92	0.02	1.52	1.89		
	14/10/2019	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.33	0.12	0.04	<0.05	<0.02	<0.02	0.14	0.5	0.04	0.83	1.52			
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.2	<0.02	<0.02	<0.02	0.06	0.2	0.34	2	0.15	0.35	<0.05	<0.02	<0.02	0.04	3.76	0.09	5.76	7.59			
	23/09/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.29	0.13	0.05	<0.05	<0.02	<0.02	0.08	0.34	0.04	0.63	1.27			
	30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.05	0.08	0.19	1.49	0.12	0.28	<0.05	<0.02	<0.02	0.05	1.66	0.05	3.15	4.52			
	13/10/2021	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.08	<0.02	0.17	0.32	0.16	0.06	<0.05	<0.02	<0.02	0.12	0.32	0.04	0.64	1.52			
	12/04/2022	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.14	0.28	0.18	0.05	<0.05	<0.02	<0.02	0.09	0.19	0.04	0.47	1.24			
12/10/2022	<0.05	0.07	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.09	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.09	0.41	0.08	0.07	<0.06	<0.02	<0.02	0.03	0.32	<0.02	0.73	1.2				
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	0.2	<0.02	<0.02	<0.02	0.04	0.21	0.29	2.52	0.11	0.6	<0.05	<0.02	<0.02	<0.02	4.06	0.08	6.58	8.7				
12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.52	<0.02	0.2	<0.02	<0.02	0.04	0.21	0.34	2.53	0.09	0.47	<0.06	<0.02	<0.02	<0.02	4.9	0.09	7.43	9.39				
MW226	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06			
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0576	0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0026	0.071	0.0023	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.0201	0.0013	0.0911	0.163			
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0533	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0271	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.016	0.0012	0.0431	0.105			
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0219	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0304	<0.0005	0.0049	<0.0005	<0.0005	<0.0005	<0.0005	0.0217	<0.0005	0.0521	0.0804			
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0067	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0136	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0155	0.0248			
	25/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	<0.01	0.29	0.35				
	23/09/2020	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03			
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02																					

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW229	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	18/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0065	<0.002	<0.0005	<0.0005	<0.0005	0.0064	0.0032	0.0336	0.0908	0.0101	0.0145	<0.0005	<0.0005	0.0005	0.0014	0.124	0.0056	0.215	0.355	
	18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0006	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0053	<0.0005	0.0074	0.0085
	10/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	17/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0032	<0.002	<0.0005	<0.0005	<0.0005	0.0005	0.0018	0.0061	0.0202	0.0009	0.0018	<0.0005	<0.0005	<0.0005	<0.0005	0.0499	0.0015	0.0701	0.0859	
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	23/09/2020	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	MW230	24/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.19	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.19	0.32
		19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.31	0.8	0.04	0.1	<0.05	<0.02	<0.02	<0.02	0.54	0.08	1.34
10/07/2017		<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.66	0.3	<0.02	<0.02	<0.02	0.68	0.8	2.77	14.6	0.7	3.13	<0.05	<0.02	<0.02	<0.02	10.4	0.97	25	37.1	
MW232	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	1.48	2.4	<0.10	<0.10	<0.10	0.44	0.8	1.72	11.6	<0.10	1.93	<0.25	<0.10	<0.10	<0.10	12.9	0.73	24.5	34	
	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.49	0.1	<0.02	<0.02	<0.02	0.23	1	1.41	13	0.51	1.73	<0.05	<0.02	<0.02	<0.02	9.52	0.58	22.5	30.7	
	24/01/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	1.07	0.4	<0.02	<0.02	<0.02	0.3	0.48	1.82	7.59	0.41	1.07	<0.05	<0.02	<0.02	<0.02	8.72	0.59	16.6	22.8	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.5	0.2	<0.02	<0.02	<0.02	0.11	0.41	0.61	3.53	0.16	0.49	<0.05	<0.02	<0.02	<0.02	9.46	0.29	13.8	16.6	
	17/12/2018	<0.020	0.068	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	1.32	<0.020	<0.0200	<0.0200	<0.0200	0.322	0.57	2.14	9.45	0.476	1	<0.0500	<0.0200	<0.0200	<0.0200	9.96	0.706	19.4	26	
	2/05/2019	<0.001	0.01	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.318	0.023	0.0006	0.0006	<0.0005	0.113	0.167	0.498	2.54	0.149	0.313	<0.0005	<0.0005	<0.0005	<0.0005	0.004	3.79	0.17	6.33	8.1
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.56	0.2	<0.02	<0.02	<0.02	0.15	0.26	0.86	3.51	0.24	0.48	<0.05	<0.02	<0.02	<0.02	4.74	0.27	8.25	11.3	
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.57	0.2	<0.02	<0.02	<0.02	0.11	0.27	0.74	3.06	0.18	0.43	<0.05	<0.02	<0.02	<0.02	5.77	0.24	8.83	11.6	
	11/09/2020	<0.52	<0.52	<0.52	<0.52	<1.31	<0.52	<1.31	<0.52	<1.31	<0.52	<1.31	<0.52	0.78	<2.6	<0.52	<0.52	<0.52	<0.52	<0.52	1.46	6.12	<0.52	0.73	<1.31	<0.52	<0.52	<0.52	13.8	0.52	19.9	23.4	
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	0.28	<0.2	<0.05	<0.05	<0.05	0.08	0.16	0.32	2.54	0.12	0.33	<0.13	<0.05	<0.05	<0.05	4.56	0.13	7.1	8.52	
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.69	0.2	<0.02	<0.02	<0.02	0.2	0.45	1	5.2	0.29	0.69	<0.06	<0.02	<0.02	<0.02	10.7	0.37	15.9	19.8	
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.51	<0.2	<0.05	<0.05	<0.05	0.13	0.26	0.7	3.64	0.21	0.46	<0.12	<0.05	<0.05	<0.05	12.3	0.3	15.9	18.5	
	5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.28	<0.1	<0.02	<0.02	<0.02	0.07	0.16	0.38	2.05	0.11	0.27	<0.05	<0.02	<0.02	<0.02	5.72	0.15	7.77	9.19	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.41	0.1	<0.02	<0.02	<0.02	0.05	0.17	0.37	3.5	0.13	0.48	<0.06	<0.02	<0.02	<0.02	3.88	0.12	7.38	9.21	
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.76	<0.05	<0.02	<0.05	<0.05	0.18	0.43	1.02	5.96	0.28	0.88	<0.12	<0.05	<0.05	<0.05	15.2	0.42	21.2	25.1	
MW234	16/08/2017	<0.05	<																														

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW255	24/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.48	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.34	<0.05	0.82	0.95	
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	<0.02	0.2	0.24	
	4/12/2018	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0667	0.009	<0.0005	<0.0005	<0.0005	<0.0005	0.0069	0.0081	0.02	0.126	0.0134	0.014	<0.0005	<0.0005	<0.0005	0.0024	0.255	0.0189	0.381	0.543
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.005	<0.002	<0.0005	<0.0005	<0.0005	0.0056	0.0007	0.015	0.0116	0.0138	0.0017	<0.0005	<0.0005	<0.0005	0.0005	0.0076	0.0111	0.0192	0.0726	
	3/05/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	<0.002	0.012	0.026	-	0.005	-	-	-	-	0.0135	0.0031	0.0382	0.097	
	25/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	0.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.8
	29/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.08
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.07	0.11
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.03	0.05
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02
	19/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.03	0.03
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.01
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	0.126	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW265	23/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.09	0.1	-	-	-	-	-	-	0.2	0.52	
	17/04/2018	-	-	<0.10	-	-	-	-	-	-	-	-	1.81	-	-	-	-	<0.10	-	0.47	2.22	0.13	0.78	-	-	-	-	0.24	<0.10	2.46	5.65	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	2.52	<0.002	<0.0020	<0.0020	<0.0020	0.0578	0.061	0.764	5.8	0.127	1.22	<0.0050	<0.0020	<0.0020	<0.0020	0.439	0.0566	6.24	11	
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.64	<0.2	<0.05	<0.05	<0.05	<0.05	0.08	1.03	<0.05	0.3	<0.12	<0.05	<0.05	<0.05	0.22	<0.05	1.25	2.27		
	17/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.49	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.75	<0.10	0.21	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.75	1.45	
	29/04/2020	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.76	<0.02	0.19	<0.05	<0.02	<0.02	<0.02	0.53	<0.01	1.29	2.07	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.97	0.03	0.27	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	1.24	2.22	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.37	0.02	0.11	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.45	0.9	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.66	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.27	1.14	0.08	0.36	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	1.41	2.78	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.46	<0.02	0.12	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.54	1.01	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.91	0.03	0.27	<0.05	<0.02	<0.02	<0.02	0.14	<0.01	1.05	1.96	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.56	<0.02	0.1	<0.05	<0.02	<0.02	0.73	0.03	1.29	1.72	
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.16	1.04	0.04	0.23	<0.05	<0.02	<0.02	<0.02	0.75	0.04	1.79	2.7
	MW300	30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.25	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.02	0.31	0.7	
6/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.23	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.02	0.28	0.66	
14/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.34	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.09	0.02	0.43	0.9		
7/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.19	0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.09	0.03	0.28	0.53		
4/05/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.23	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.13	0.04	0.36	0.67	
10/10/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03												

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																0.56	0.07	
Location ID	Sample Date																																	
MW206	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.23	0.3	<0.02	<0.02	<0.02	0.22	0.21	3.75	15.9	1.02	2.13	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	0.08	15.9	26.9		
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.77	0.2	<0.02	<0.02	<0.02	0.09	0.05	1.5	4.54	0.26	0.74	<0.05	<0.02	<0.02	<0.02	<0.01	0.03	4.54	8.18			
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.133	<0.002	<0.0005	<0.0005	<0.0005	0.0293	0.0067	0.13	0.503	0.0651	0.0672	<0.0005	<0.0005	<0.0005	<0.0005	0.0265	0.0057	0.53	0.966			
	6/05/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.234	<0.002	<0.0005	<0.0005	<0.0005	0.0227	0.0099	0.532	1.06	0.0852	0.281	<0.0005	<0.0005	<0.0005	<0.0005	0.0277	0.0053	1.09	2.26			
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	<0.1	<0.02	<0.02	<0.02	0.13	0.03	2.66	6.12	0.54	1.19	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	6.12	12.2			
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.07	0.3	<0.02	<0.02	<0.02	0.07	0.02	1.56	3.52	0.35	0.72	<0.05	<0.02	<0.02	<0.02	0.01	0.02	3.53	7.64			
	14/09/2020	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	1.85	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.75	7	0.65	1.05	<1.25	<0.5	<0.5	<0.5	<0.5	<0.5	7	14.1			
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.73	2.92	0.11	0.34	<0.05	<0.02	<0.02	<0.02	0.09	0.02	3.01	4.59			
	12/10/2021	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	2.5	1	<0.1	<0.1	<0.1	0.37	0.15	5.42	12.1	0.99	2.32	<0.24	<0.1	<0.1	<0.1	0.15	0.13	12.2	25.1			
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.76	0.6	<0.02	<0.02	<0.02	0.25	<0.11	4.26	9.56	0.84	1.86	<0.05	<0.02	<0.02	<0.02	<0.04	0.08	9.56	19.2			
	6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.66	0.5	<0.02	<0.02	<0.02	0.26	0.12	3.88	9.24	0.78	1.64	<0.05	<0.02	<0.02	<0.02	<0.01	0.09	9.24	18.2			
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.1	<0.02	<0.02	<0.02	0.08	0.04	1.08	2.99	0.18	0.43	<0.05	<0.02	<0.02	<0.02	0.03	0.03	3.02	5.3			
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	2.05	<0.02	0.7	<0.02	<0.02	0.33	0.17	5.03	12.4	0.91	1.98	<0.06	<0.02	<0.02	<0.02	<0.02	0.12	12.4	23.7			
	MW207	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.14	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.22		
13/04/2018		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
11/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0075	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	0.0074	<0.0005	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.0116	0.0229			
6/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0043	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.006	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	0.0069	0.0141			
23/10/2019		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
17/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01			
14/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
27/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04			
12/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02			
14/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
6/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.01			
21/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.03	0.03			
12/10/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.03			
MW208		17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	0.03	<0.05	<0.02	<0.02	0.03	<0.01	0.14	0.31		
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	0.06	<0.01	0.15	0.23			
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.138	<0.002	<0.0005	<0.0005	<0.0005	0.01	0.004	0.0112	0.197	0.0081	0.0255	<0.0005	<0.0005	<0.0005	<0.0005	0.0499	0.0122	0.247	0.456			
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.28	0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.34	0.58			
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.13	0.25			
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	0.15	0.23			
	27/04/2021	<0.05	<0.05	&																														

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																	0.56	0.07
Location ID	Sample Date																																	
MW211	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07		
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.15	0.18	
	3/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0405	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0405	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.0439	<0.0005	0.0844	0.136	
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0358	<0.002	<0.0005	<0.0005	<0.0005	0.0011	0.0043	0.0027	0.068	<0.0005	0.0045	<0.0005	<0.0005	<0.0005	0.0987	0.0017	0.167	0.217			
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.11	0.14	
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.19	0.22	
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	<0.01	0.18	0.18	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.22	<0.05	0.29	0.29		
	19/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.09	0.09		
	8/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.05	<0.02	0.08	0.1		
	25/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	<0.01	0.19	0.21		
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.04		
	MW212	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
		11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.04	
4/12/2018		<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0113	<0.002	0.003	<0.0005	<0.0005	0.0037	<0.0005	0.0064	0.0072	0.0025	<0.0005	<0.0005	0.0006	0.0017	0.0129	0.008	0.0201	0.0603				
6/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0137	<0.002	0.0042	<0.0005	<0.0005	0.0045	<0.0005	0.0119	0.0103	0.004	0.0006	<0.0005	<0.0005	0.0006	0.0019	0.0217	0.0073	0.032	0.0807			
22/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
20/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	<0.01		
16/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
21/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
12/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
14/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.04	0.04		
6/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	<0.01		
25/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.01	0.06	0.07		
10/10/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
MW213		15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0038	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.0085	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	<0.0005	0.0107	0.0179			
	6/12/2018	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0118	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0032	0.0148	<0.0005	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	<0.0005	0.0169	0.0391			
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0119	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0049	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0109	0.0007	0.0158	0.0291			
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0086	<0.002	<0.0005	<0.0005	<0.0005	0.001	<0.0005	0.0035	0.0096	0.0008	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	0.0074	0.0013	0.0182	0.0357			
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0												

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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						
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01						
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220		
PFAS NEMP 2020 Drinking Water																																		0.56	0.07
Location ID	Sample Date																																		
MW220	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01	0.03	0.03					
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0202	<0.002	<0.0005	<0.0005	<0.0005	0.0053	0.0028	0.0153	0.0354	0.0168	0.0084	<0.0005	<0.0005	<0.0005	<0.0005	0.0422	0.0049	0.0776	0.151			
	7/05/2019	<0.001	0.008	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0303	<0.002	<0.0005	<0.0005	<0.0005	0.0196	0.0058	0.0567	0.104	0.012	0.0287	<0.0005	<0.0005	<0.0005	0.0005	0.0582	0.0108	0.162	0.335		
	21/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.1	0.14	0.12	0.03	<0.05	<0.02	<0.02	<0.02	0.08	0.02	0.22	0.68		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	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	<0.02	<0.02	0.07	<0.01	0.07	0.09		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW221	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.64	<0.2	<0.05	<0.05	<0.05	0.15	0.89	5.12	0.15	0.46	<0.12	<0.05	<0.05	<0.05	1.72	0.08	6.84	9.21				
	13/12/2018	<0.002	0.041	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	1.89	<0.002	<0.0020	<0.0020	<0.0020	0.184	0.274	2.26	7.66	0.347	0.834	<0.0050	<0.0020	<0.0020	0.0028	2.71	0.234	10.4	16.4			
	8/05/2019	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.262	0.012	<0.0005	<0.0005	<0.0005	0.024	0.0573	0.381	1.27	0.0591	0.226	<0.0005	<0.0005	<0.0005	0.497	0.061	1.77	2.86			
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	<0.1	<0.02	<0.02	<0.02	0.08	0.11	0.84	3.23	0.16	0.46	<0.05	<0.02	<0.02	<0.02	1.27	0.12	4.5	6.89		
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.48	1.84	0.1	0.29	<0.05	<0.02	<0.02	<0.02	1.06	0.08	2.9	4.33		
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	<0.2	<0.02	<0.02	<0.02	0.09	0.17	0.94	3.23	0.17	0.48	<0.05	<0.02	<0.02	<0.02	2.27	0.14	5.5	8.11		
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.44	1.78	0.08	0.28	<0.05	<0.02	<0.02	<0.02	1.08	0.07	2.86	4.18		
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	<0.2	<0.02	<0.02	<0.02	0.07	0.12	0.88	2.36	0.12	0.42	<0.05	<0.02	<0.02	<0.02	1.39	0.09	3.75	5.71		
	20/04/2022	<0.05	0.62	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	<0.04	0.06	0.36	1.22	0.07	0.26	<0.05	<0.02	<0.02	<0.02	0.73	<0.06	1.95	3.7		
	5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.02	0.04	0.27	1.1	0.04	0.18	<0.05	<0.02	<0.02	<0.02	0.41	0.04	1.51	2.36		
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.39	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.2	<0.01	0.59	0.93			
10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.02	<0.1	<0.02	<0.02	0.03	0.05	0.35	1.22	0.07	0.23	<0.05	<0.02	<0.02	<0.02	0.76	0.06	1.98	3.06			
MW225	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.21	0.01	0.32	0.37			
	4/09/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.2	0.01	0.27	0.32			
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.23	<0.01	0.43	0.47			
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0358	<0.002	<0.0005	<0.0005	<0.0005	0.0045	0.005	0.0106	0.0873	0.0043	0.0146	<0.0005	<0.0005	<0.0005	0.0016	0.178	0.0087	0.265	0.35		
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	0.01	0.27	0.43		
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.32	0.01	0.46	0.52		
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.28	0.01	0.4	0.46		
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.34	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.28	0.02	0.62	0.78		
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.06	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.26	<0.02	0.39	0.45		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.3	0.01	0.4	0.46		
	6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.23	<0.01	0.32	0.35		
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.05	<0.02	<								

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																	
NHMC - Recreational Use - Surface Water																																	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
On-Base Bohle River/Louisa Creek/Town Common	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.91	0.2	<0.02	<0.02	<0.02	0.24	0.31	2.85	13.9	0.82	1.98	<0.05	<0.02	<0.02	<0.02	<0.02	0.90	0.40	14.80	24.5
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.11	0.25	0.98	3.54	0.19	0.43	<0.05	<0.02	<0.02	<0.02	<0.02	5.96	0.19	9.50	12.2
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	0.07	<0.02	0.87	<0.02	0.19	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.04	<0.01	1.43	
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.152	<0.020	<0.0200	<0.0200	<0.0200	0.028	0.068	0.232	0.994	0.06	0.122	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	1.67	0.06	2.66	3.39
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0026	<0.001	<0.0005	<0.001	0.247	0.065	0.001	0.009	<0.0005	0.0805	0.108	0.641	1.94	0.104	0.244	<0.0005	<0.0005	<0.0005	0.0026	2.91	0.14	4.85	6.5	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	0.02	<0.02	<0.02	0.03	0.16	0.13	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.20	<0.01	0.36	0.57	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.86	<0.3	<0.02	<0.02	<0.02	0.18	0.27	2.28	6.52	0.38	0.82	<0.06	<0.02	<0.02	<0.02	3.11	0.32	9.63	14.7	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.02	0.19	0.47	0.05	0.08	<0.05	<0.02	<0.02	<0.02	<0.02	0.19	0.03	0.66	1.19	
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	0.14	0.14	
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.2	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.31	0.49	
SW013	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.12	0.12	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	0.006	0.0007	<0.0005	<0.0005	0.0038	0.0019	0.0102	0.034	0.0089	0.0041	<0.0005	<0.0005	<0.0005	0.0006	0.03	0.01	0.07	0.131	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0097	<0.0005	0.0085	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.00	<0.0003	0.0241
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0123	<0.002	0.0009	<0.0005	<0.0005	0.0078	<0.0005	0.0043	0.0091	0.0054	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.01	0.00	0.02	0.0527	
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.016	<0.002	0.0008	<0.0005	<0.0005	0.0043	0.0027	0.0079	0.0436	0.0057	0.0073	<0.0005	<0.0005	<0.0005	0.0013	0.05	0.01	0.10	0.15	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0478	<0.002	0.0016	<0.0005	<0.0005	0.0118	0.0103	0.0366	0.157	0.0218	0.0203	<0.0005	<0.0005	<0.0005	0.0021	0.13	0.01	0.29	0.452	
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.03	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.01	0.08	0.18		
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.08		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04		
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.12	0.12		
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.04		
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04			
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.07		
11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.14	0.14			
SW014	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.22	0.1	0.04	<0.05	<0.02	<0.02	<0.02	0.28	0.04	0.50	0.88	
	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0211	<0.002	0.0006	<0.0005	<0.0005	0.012	0.003	0.0241	0.0769	0.0119	0.0092	<0.0005	<0.0005	<0.0005	0.0005	0.09	0.01	0.17	0.254	
	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005																									

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.20	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMR - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65		
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66		
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.00	0.17	1.68		
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.001	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0020	<0.0020	0.0084	0.17	0.07	0.89	1.7		
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.15	1.73	2.74		
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.02	<0.02	<0.02	1.21	0.05	1.35	1.6			
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5		
	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.04	0.26	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	<0.01	0.14	0.17		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.19	0.13	0.02	<0.05	<0.02	<0.02	<0.02	0.29	0.08	0.48	0.91
	17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.12	<0.2	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	0.26	0.43	0.21	0.05	<0.05	<0.02	<0.02	0.03	0.65	0.13	1.08	1.89	
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.07	0.02	0.13	0.31	0.16	0.05	<0.05	<0.02	<0.02	0.02	0.59	0.08	0.9	1.53
	18/04/2023	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.1	0.03	0.18	0.53	0.18	0.1	<0.05	<0.02	<0.02	0.04	1.06	0.11	1.59	2.63
	19/04/2023	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.3	0.1	<0.02	<0.02	<0.02	0.1	0.05	0.32	0.84	0.19	0.12	<0.05	<0.02	<0.02	0.05	1.94	0.13	2.78	3.97
20/04/2023	<0.05	0.17	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.74	0.2	<0.02	<0.02	<0.02	0.15	0.07	0.45	1.27	0.29	0.19	<0.05	<0.02	<0.02	0.06	2.48	0.2	3.75	6.27	
21/04/2023	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.1	<0.02	<0.02	<0.02	0.14	0.08	0.47	1.12	0.33	0.19	<0.05	<0.02	<0.02	0.08	2.81	0.18	3.93	6.12	
11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.27	0.02	0.35	0.41		
SW106	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.82	0.6	<0.02	<0.02	<0.02	0.76	0.13	7.76	16	1.3	3.41	<0.05	<0.02	<0.02	0.06	11.70	1.18	27.70	45.7		
	25/04/2020	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.1	<0.50	<0.10	<0.10	<0.10	<0.10	0.14	0.69	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	0.79	<0.10	1.48	1.72		
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.36	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.22	<0.01	0.28	0.28		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.05	0.38	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.01	1.19	1.34		
	17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.17	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.25	0.37		
11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.19	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.67	0.02	0.86	0.88			
SW121	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.288	<0.020	<0.0200	<0.0200	<0.0200	0.026	0.054	0.244	1.16	0.07	0.182	<0.0500	<0.0200	<0.0200	<0.0200	1.15	0.06	2.31	3.24		
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.29	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.49	0.02	0.78	1.04			
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	0.07	0.44	<0.08	0.09	<0.05	<0.02	<0.02	<0.02	0.32	<0.01	0.76	1.08			
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.48	0.2	<0.02	<0.02	<0.02	0.05	0.05	0.48	2.36	0.15	0.42	<0.05	<0.02	<0.02	<0.02	0.9	0.06	3.26	5.15		
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	0.2	<0.02	<0.02	<0.02	0.06	0.05	0.6	2.54	0.2	0.5	<0.05	<0.02	<0.02	<0.02	0.74	0.07	3.28	5.55		
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.46	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.68	0.03	1.14	1.46			
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.43	0.2	<0.02	<0.02	<0.02	0.04	0.05	0.38	1.8	0.18	0.32	<0.05	<0.02	<0.02	<0.02	0.73	0.06	2.53	4.19			

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.02	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMR - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
On-Base - Three Mile Creek Catchment																																
SW102	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.54	0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.38	<0.01	0.92	1.2
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0226	<0.002	<0.0020	<0.0020	<0.0020	0.0032	0.0078	0.0302	0.204	<0.0020	0.0196	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.33	0.01	0.53	0.627
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.023	0.117	<0.0020	<0.0020	<0.0020	0.0034	0.0094	0.035	0.205	<0.0020	0.0224	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.36	0.01	0.57	0.793
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.014	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	0.013	0.063	0.201	<0.0100	0.018	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.31	<0.0100	0.44	0.501
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.018	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	0.013	0.063	0.201	<0.0100	0.018	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.37	0.02	0.57	0.702
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0264	0.004	<0.0005	<0.0005	<0.0005	0.006	0.0164	0.0471	0.281	0.0098	0.0199	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.51	0.02	0.79	0.94
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0223	0.003	<0.0005	<0.0005	<0.0005	0.0051	0.0109	0.0416	0.198	0.0082	0.0169	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.47	0.02	0.67	0.794
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.021	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	0.018	0.055	0.237	<0.0100	0.019	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.53	0.02	0.76	0.898
	5/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0442	<0.002	<0.0005	<0.0005	<0.0005	0.0088	0.0169	0.0414	0.166	<0.0005	0.0292	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.66	0.03	0.82	0.991
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	0.16	0.68	0.04	0.1	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.70	0.02	1.38	1.82
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.19	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0282	<0.002	<0.0020	<0.0020	<0.0020	0.0024	0.0096	0.0282	0.153	0.0112	0.0128	<0.0050	<0.0020	<0.0020	<0.0020	0.26	0.01	0.41	0.513	
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.295	<0.002	<0.0005	<0.0005	<0.0005	0.04	0.04	0.383	1.26	0.0919	0.234	<0.0005	<0.0005	<0.0005	<0.0005	0.47	0.04	1.73	2.87	
	10/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.36	0.2	-	-	-	0.0519	0.0408	0.69	1.44	0.12	0.25	-	-	-	-	0.67	0.05	2.11	3.86	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.2	<0.02	<0.02	<0.02	0.04	0.04	0.87	1.85	0.16	0.26	<0.05	<0.02	<0.02	<0.02	0.62	0.06	2.47	4.48	
	17/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.54	<0.3	-	-	-	0.05	0.05	0.9	1.97	0.18	0.32	-	-	-	-	0.71	0.07	2.68	4.94	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.16	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.42	<0.01	0.58	0.63	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	<0.2	<0.02	<0.02	<0.02	0.02	0.04	0.35	1.77	0.1	0.24	<0.05	<0.02	<0.02	<0.02	0.78	0.04	2.55	3.61	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.29	1.6	<0.05	<0.05	<0.05	0.27	0.12	4.74	10.5	0.98	2.32	<0.12	<0.05	<0.05	<0.05	1.19	0.24	11.70	26.2	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.1	<0.02	<0.02	<0.02	0.1	0.08	1.22	3.75	0.19	0.79	<0.05	<0.02	<0.02	<0.02	0.90	0.09	4.65	8.02	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.27	0.3	<0.02	<0.02	<0.02	0.16	0.13	2.88	5.99	0.38	1.48	<0.05	<0.02	<0.02	<0.02	1.18	0.18	7.17	15	
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.64	0.2	<0.02	<0.02	<0.02	0.05	0.08	0.72	2.91	0.13	0.52	<0.05	<0.02	<0.02	<0.02	1.70	0.11	4.61	7.06		
17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.03	0.04	0.22	0.91	0.06	0.18	<0.05	<0.02	<0.02	<0.02	0.68	0.04	1.59	2.35		
18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.42	1.3	0.09	0.26	<0.05	<0.02	<0.02	<0.02	1.05	0.04	2.35	3.54		
19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.39	1.46	0.09	0.25	<0.05	<0.02	<0.02	<0.02	0.88	0.04	2.34	3.48		
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.41	<0.1	<0.02	<0.02	<0.02	0.06	0.06	0.59	2.06	0.12	0.34	<0.05	<0.02	<0.02	<0.02	0.84	0.06	2.9	4.54		
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.51	0.1	<0.02	<0.02	<0.02	0.07	0.09	0.73	2.77	0.16	0.43	<0.05	<0.02	<0.02	<0.02	1.1	0.07	3.87	6.03		
Off-Base Bohle River/Louisa Creek/Town Common																																
SW017	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.02	0.24	0.29		
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.10	<0.01	0.21	0.23		
	11/12/2018	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0113	<0.002	0.0007	<0.0005	<0.0005	0.0048	<0.0005	0.0045	0.0088	0.0023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.01	0.00	0.02	0.0533	
	9/05/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0188	<0.002	0.0017</																	

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
SW110	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.66	<0.1	<0.02	<0.02	<0.02	0.06	0.21	0.6	3.53	0.17	0.41	<0.05	<0.02	<0.02	<0.02	2.73	0.12	6.26	8.49
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	<0.1	<0.02	<0.02	<0.02	0.1	0.16	0.96	2.87	0.19	0.32	<0.05	<0.02	<0.02	<0.02	3.45	0.23	6.32	8.65
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.988	<0.002	<0.0005	<0.0005	<0.0005	0.316	0.205	1.92	5.5	0.533	0.794	<0.0005	<0.0005	<0.0005	0.0058	1.67	0.29	7.17	12.2
	6/05/2019	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.318	<0.002	<0.0020	<0.0020	<0.0020	0.0494	0.0686	0.498	2.42	0.0502	0.262	<0.0050	<0.0020	<0.0020	<0.0020	1.46	0.08	3.88	5.2
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.76	0.3	<0.02	<0.02	<0.02	0.2	0.19	2.32	5.79	0.48	0.74	<0.05	<0.02	<0.02	<0.02	2.99	0.30	8.78	14.1
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	<0.1	<0.02	<0.02	<0.02	0.05	0.08	0.53	1.52	0.11	0.18	<0.05	<0.02	<0.02	<0.02	1.97	0.10	3.49	4.77
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.2	<0.02	<0.02	<0.02	0.11	0.12	1.25	2.81	0.23	0.41	<0.05	<0.02	<0.02	<0.02	1.69	0.17	4.50	7.19
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	0.1	<0.02	<0.02	<0.02	0.04	0.04	0.46	1.12	0.1	0.18	<0.05	<0.02	<0.02	<0.02	1.09	0.06	2.21	3.4
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.48	0.1	<0.02	<0.02	<0.02	0.1	0.15	1.39	3.14	0.18	0.46	<0.05	<0.02	<0.02	<0.02	1.79	0.18	4.93	7.97
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	0.1	<0.02	<0.02	<0.02	0.06	0.12	0.74	1.91	0.14	0.24	<0.05	<0.02	<0.02	<0.02	2.55	0.13	4.46	6.25
	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.41	0.2	<0.02	<0.02	<0.02	0.11	0.18	1.14	3.14	0.23	0.38	<0.05	<0.02	<0.02	<0.02	3.39	0.2	6.53	9.38
	3/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.03	0.05	0.33	1.1	0.06	0.19	<0.05	<0.02	<0.02	<0.02	0.97	0.05	2.07	2.96
12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.04	<0.5	<0.02	<0.02	<0.02	0.24	0.13	3.12	5.38	0.51	0.96	<0.06	<0.02	<0.02	<0.02	0.88	0.31	6.26	12.6	
SW111	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.72	<0.1	<0.02	<0.02	<0.02	0.07	0.19	0.7	3.74	0.18	0.47	<0.05	<0.02	<0.02	<0.02	2.32	0.14	6.06	8.53
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.05	0.09	0.43	1.44	0.1	0.14	<0.05	<0.02	<0.02	<0.02	2.73	0.11	4.17	5.28
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.185	<0.002	<0.0005	0.0007	<0.0005	0.0343	0.0528	0.41	1.44	0.0671	0.161	<0.0005	<0.0005	<0.0005	0.0008	0.74	0.05	2.18	3.14
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	0.1	<0.02	<0.02	<0.02	0.05	0.11	0.5	1.71	0.12	0.19	<0.05	<0.02	<0.02	<0.02	2.46	0.10	4.17	5.58
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.2	<0.02	<0.02	<0.02	0.1	0.14	1.32	3.03	0.24	0.4	<0.05	<0.02	<0.02	<0.02	2.08	0.18	5.11	7.89
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	0.1	<0.02	<0.02	<0.02	0.06	0.09	0.75	1.98	0.16	0.24	<0.05	<0.02	<0.02	<0.02	1.76	0.10	3.74	5.49
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.1	<0.02	<0.02	<0.02	0.09	0.15	1.31	3.24	0.18	0.49	<0.05	<0.02	<0.02	<0.02	1.70	0.14	4.94	7.9
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.51	1.56	0.08	0.17	<0.05	<0.02	<0.02	<0.02	2.18	0.09	3.74	4.92
	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	0.1	<0.02	<0.02	<0.02	0.08	0.12	0.86	2.4	0.16	0.31	<0.05	<0.02	<0.02	<0.02	2.27	0.12	4.67	6.74
	3/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	<0.1	<0.02	<0.02	<0.02	0.06	0.08	0.67	1.92	0.12	0.31	<0.05	<0.02	<0.02	<0.02	1.17	0.1	3.09	4.66
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.81	<0.4	<0.02	<0.02	<0.02	0.15	0.11	2.2	4.11	0.43	0.73	<0.06	<0.02	<0.02	<0.02	1.13	0.22	5.24	9.89
	SW120	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	0.03	0.12	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	0.04	0.26	0.38
20/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	0.04	0.15	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	0.04	0.25	0.37	
12/12/2018		<0.001	0.037	0.008	<0.001	<0.001	<0.0005	<0.001	0.005	<0.001	0.0023	<0.001	0.0243	<0.002	0.0027	<0.0005	0.0122	0.0013	0.0099	0.0265	0.0115	0.0016	<0.0005	<0.0005	<0.0005	0.002	0.07	0.01	0.10	0.229	
24/10/2019		<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.023	<0.002	0.0057	<0.0005	0.0139	0.0039	0.0354	0.141	0.0225	0.011	<0.0005	<0.0005	<0.0005	0.0008	0.19	0.03	0.33	0.489	
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.10	0.01	0.21	0.22
9/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.21	0.26
15/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.28	0.41	
6/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.0														

T9: Historical Surface Water PFAS Analytical Results

Summary table with columns for various PFAS compounds (4:2 FTS, 6:2 FTS, 8:2 FTS, 10:2 FTS, etc.) and rows for Units (LOR) and Protection Values (PFAS NEMP, NHMRC).

Main data table with columns for Location ID, Sample Date, and 28 PFAS compounds. Rows are grouped by location (SW108, SW109, SW113, SW114) and include multiple sample dates.

Units	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOsAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOsAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS			
SD112	18/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011	0.0011	
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0037	<0.0002	0.0041	0.0044	
	20/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.003	0.0032	
	3/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017	
	25/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	0.0012	0.0012
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0028	0.0028	
	7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011	0.0011	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	<0.0002	0.0025	0.0025	
11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.0008	0.0008		
SD123	7/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0102	<0.0005	<0.0002	<0.0005	0.0153	0.006	0.0054	0.0008	0.0024	0.0066	0.0454	0.058	0.183	0.0126	0.0255	<0.0005	0.0005	0.0006	0.0009	2.75	0.0245	2.93	3.15			
	7/06/2017	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	0.0025	<0.0062	0.0178	0.022	<0.0025	<0.0025	0.0025	0.0089	0.0292	0.0651	0.173	0.0182	0.0194	<0.0062	<0.0025	0.003	0.0034	1.3	0.0169	1.47	1.68			
	18/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0027	0.001	0.003	<0.0002	<0.0002	0.0008	0.0018	0.007	0.0218	0.0018	0.0027	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002	0.127	0.0018	0.15	0.18
	18/04/2018	-	-	-	-	-	-	-	0.004	-	-	-	0.0028	0.005	0.0061	0.0027	0.0005	0.0077	-	0.0304	0.0235	0.0069	0.0033	-	-	0.0007	0.0056	0.208	0.0214	0.23	0.322			
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.001	<0.0005	<0.0002	<0.0005	0.001	<0.001	0.0048	0.0002	0.0004	0.0002	0.0012	0.0022	0.0052	0.0006	0.0007	<0.0005	<0.0002	0.0004	<0.0002	<0.0002	0.0002	0.157	0.0007	0.162	0.176	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0014	<0.0005	<0.0002	<0.0005	0.0012	<0.001	0.0019	<0.0002	<0.0002	0.0004	0.0011	0.0019	0.0087	0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0476	0.0005	0.0563	0.0661		
	18/10/2019	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0003	<0.0005	0.0099	<0.0005	<0.0002	<0.0005	0.0012	<0.001	0.0048	0.0004	0.0007	0.003	0.0111	0.0262	0.0809	0.0075	0.0122	<0.0005	0.0004	0.0003	0.0009	0.522	0.0076	0.603	0.706			
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0042	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0013	0.0138	<0.0005	0.0009	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0009	0.198	0.203		
	10/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	0.0058	<0.0025	<0.001	<0.0025	0.0014	<0.005	<0.001	0.0011	<0.001	<0.001	0.0039	0.0025	0.022	<0.001	0.0012	<0.0025	<0.001	<0.001	<0.001	0.243	0.0017	0.265	0.283			
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0027	<0.0005	<0.0002	<0.0005	0.0008	<0.001	0.0077	<0.0002	0.0004	0.0002	0.0027	0.0021	0.0168	0.0005	0.0011	<0.0005	<0.0002	0.0003	<0.0002	<0.0002	0.142	0.0012	0.159	0.178		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0042	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	0.0049	<0.0005	<0.0005	<0.0005	0.001	0.0012	0.005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.152	<0.0005	0.157	0.168		
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0039	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	<0.0005	<0.0002	<0.0005	<0.0005	0.0019	0.0086	<0.0005	0.0007	<0.0012	<0.0005	<0.0005	<0.0005	0.142	0.0006	0.151	0.158				
17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0042	<0.0005</																									

T10: Historical Sediment PFAS Analytical Results

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS		
SD131	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0054	<0.0002	0.0061	0.0061	
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0188	<0.0002	0.0208	0.0211	
	29/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0025	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0031	<0.0002	0.0056	0.0069
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0011	0.0053	0.0002	0.0007	<0.0005	<0.0002	<0.0002	0.026	0.0003	0.0313	0.0346
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0018	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0077	<0.0002	0.0095	0.0101
	9/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	0.0019	<0.005	<0.001	<0.001	<0.001	<0.001	0.0011	0.006	0.0044	0.0458	<0.001	0.0037	<0.0025	<0.001	<0.001	<0.001	0.278	0.003	0.324	0.344	
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0181	<0.0002	0.0196	0.0203
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0045	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0223	0.0002	0.0268	0.0296
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0327	<0.0002	0.0342	0.0352
	19/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0009	0.0047	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	0.0222	0.0003	0.0269	0.0292
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0013	0.0042	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	0.0265	0.0005	0.0307	0.0337
11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	0.001	0.0072	<0.0002	<0.0003	<0.0005	<0.0002	<0.0002	0.0994	0.0007	0.107	0.11	
On-Base - Mundy Creek Catchment																																	
SD001	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0024	<0.001	0.0008	<0.0002	<0.0002	0.001	0.0011	0.0055	0.0145	0.001	0.0021	<0.0005	<0.0002	<0.0002	<0.0002	0.0007	0.0662	0.0033	0.0807	0.0986	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	0.0007	<0.0002	<0.0002	0.0007	0.0006	0.0034	0.0082	0.0006	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.0282	0.0014	0.0364	0.0466		
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0035	<0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0174	0.0002	0.0209	0.0234		
	23/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	0.0073	<0.005	<0.001	<0.001	<0.001	0.0022	0.0032	0.0154	0.0437	0.0032	0.0062	<0.0025	<0.001	<0.001	<0.001	0.0816	0.0064	0.125	0.169		
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0036	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0262	0.0002	0.0298	0.0319		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	0.0006	<0.0002	<0.0002	0.0004	0.0017	0.0019	0.0109	0.0004	0.0011	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	0.0579	0.0022	0.0688	0.0783	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0002	<0.0002	<0.0002	0.0003	0.0012	0.0032	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0185	0.0006	0.0217	0.025		
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0116	<0.0002	0.0128	0.0128		
	20/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0032	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0225	0.0003	0.0257	0.028		
	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0007	0.0064	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0596	0.0006	0.066	0.0695	
	SD010	30/05/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0002	0.0002	0.0005	0.0004	0.0007	0.0007	0.0144	<0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	0.0002	0.0358	0.0013	0.0502
17/04/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0007	0.0022	0.0004	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0122	0.0006	0.0144	0.0171		
17/12/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017		
2/05/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.00																									

T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
SD110	18/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	0.0006	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0011	0.0023	0.0133	<0.0002	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	0.0628	0.0009	0.0761	0.0831	
	11/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0011	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0011	0.0022	0.0094	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.096	0.0009	0.105	0.112	
	11/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0032	<0.001	<0.0002	<0.0002	<0.0002	0.0014	0.0046	0.0076	0.0639	0.0006	0.0062	<0.0005	<0.0002	<0.0002	<0.0002	0.215	0.0045	0.279	0.307	
	6/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	0.0004	<0.0002	<0.0002	0.0004	0.0003	0.0026	0.0116	<0.0002	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0254	0.0006	0.037	0.0435	
	23/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	0.001	<0.0002	<0.0002	<0.0002	0.001	0.0017	0.0086	0.0082	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0614	0.0005	0.07	0.0753	
	17/04/2020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	0.0082	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	0.0767	<0.0010	0.0849	0.0863
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0008	0.0019	0.0082	0.0004	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0332	0.0007	0.0414	0.0464	
	20/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0003	0.001	0.0038	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0288	0.0002	0.0326	0.0348	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0008	<0.001	<0.0002	<0.0002	<0.0002	0.0006	0.0012	0.0071	0.0071	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0525	0.0004	0.0596	0.0624	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0009	0.0022	0.0125	<0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0394	0.0008	0.0519	0.0578	
	14/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	0.0003	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0007	0.0019	<0.0002	0.0008	<0.0006	<0.0002	<0.0002	<0.0002	0.0119	<0.0002	0.0138	0.0148	
	3/05/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0005	<0.0013	<0.0005	<0.0013	0.0006	<0.001	<0.0002	<0.0002	<0.0005	<0.0002	0.0008	0.0034	0.0103	0.0038	<0.0002	0.0008	<0.0013	<0.0005	<0.0005	<0.0002	0.0546	0.0005	0.0649	0.071	
	12/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	0.001	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0018	<0.001	<0.0002	<0.0002	<0.0005	0.0003	0.0025	0.0034	0.0235	<0.0004	0.0022	<0.0005	<0.0002	<0.0002	<0.0002	0.134	0.0011	0.158	0.17	
SD111	18/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0008	0.0007	0.0049	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0664	0.0003	0.0713	0.0733	
	11/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0005	0.0005	0.004	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0172	<0.0002	0.0212	0.0224	
	11/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	0.0005	0.0006	0.0048	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0472	0.0003	0.052	0.0541	
	10/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	0.0007	0.0067	0.0067	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0407	0.0003	0.0474	0.0496	
	23/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0074	0.003	<0.0002	<0.0002	<0.0002	0.0005	0.0008	0.0102	0.0221	0.001	0.0039	<0.0005	<0.0002	<0.0002	<0.0002	0.0374	0.0006	0.0595	0.0699	
	17/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0009	0.0089	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	0.0589	<0.0005	0.0678	0.0695	
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0008	0.0036	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0276	0.0003	0.0312	0.0332		
	20/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.001	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0012	0.0024	0.0145	0.0004	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	0.0711	0.0007	0.0856	0.0927	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	0.0008	<0.0002	<0.0002	0.0013	0.0012	0.0093	0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.114	0.0004	0.123	0.128		
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0011	0.0014	0.0147	<0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0824	0.001	0.0971	0.102	
	14/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	0.0012	0.0011	0.0098	0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0599	0.0004	0.0697	0.0735		
	3/05/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0016	0.0032	0.0135	0.0003	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0892	0.0009	0.103	0.11	
	12/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0026	<0.001	<0.0002	<0.0002	<0.0002	0.0006	0.0016	0.0068	0.0285	0.0012	0.0031	<0.0005	<0.0002	<0.0002	<0.0002	0.0906				

T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
SD115	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0014	<0.0002	0.0014	0.0014	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0006	<0.001	0.0012	<0.0002	<0.0002	0.0002	0.0008	0.0013	0.0072	0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0526	0.0009	0.0598	0.0656	
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	0.0012	<0.0002	<0.0002	0.0007	0.0003	<0.0002	0.0008	0.0071	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	<0.0002	0.0479	0.0004	0.055	0.0596
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0014	<0.001	0.0019	<0.0002	<0.0002	0.0005	0.001	0.0025	0.0092	0.0005	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.0472	0.0012	0.0564	0.067	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0006	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0031	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0509	0.0004	0.054	0.0571	
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0006	<0.001	0.0009	<0.0002	<0.0002	<0.0002	0.0002	0.0005	0.0012	0.0058	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0508	0.0006	0.0566	0.0619	
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0006	<0.0002	<0.0002	0.0004	0.0005	0.0028	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0331	0.0003	0.0359	0.0387	
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0123	<0.0002	0.0123	0.0135	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	0.0008	<0.0002	<0.0002	<0.0002	0.0003	0.0005	0.0025	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0277	0.0003	0.0302	0.0325	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0141	<0.0002	0.0146	0.0146	
	7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0091	<0.0002	0.0095	0.0095	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0006	<0.001	0.0011	<0.0002	<0.0002	0.0003	0.0002	0.0006	0.001	0.0039	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	0.0434	0.0007	0.0473	0.0527	
3/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0007	<0.0002	<0.0002	0.0005	0.0008	0.0014	0.0084	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	0.0438	0.0021	0.0522	0.0588		
SD116	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0009	0.0009	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0047	<0.0002	0.0054	0.0054	
	12/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0081	<0.0002	0.0087	0.0087	
	7/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0021	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0086	0.0003	0.0107	0.0118	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0006	<0.0002	0.0006	0.0006	
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0011	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0103	0.0002	0.0114	0.0118	
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0009	0.0004	0.0003	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0043	0.0008	0.0047	0.0069	
	20/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0044	0.0006	0.0048	0.0062	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0033	<0.0002	0.0035	0.0035	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	0.0046	<0.0002	0.0046	0.0046	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0035	<0.0002	0.0044	0.0047	
	12/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0005	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0217	0.0013	0.0232	0.0253
14/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005																					

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by: MM	Date: 25/10/2023
Client:	Department of Defence		
Site:	RAAF Townsville (0874)		
Matrix type:	Groundwater, surface water, sediment	Data verified by: CJ	Date: 29/11/2023
No. of primary samples:	80 groundwater, 34 surface water, 41 sediment (October 2023) 2 groundwater, 1 sediment (November 2023)		
Laboratory:	ALS (Brisbane), Eurofins (Brisbane)	Project Manager: CJ	
Lab reference:	ET2304829, ET2304975, ET2304991, 1035859, 1039604, ET2305576		
Key Issues:	<p>Anomalous results reported for three locations were resampled and the new results accepted as they were more consistent with historical concentrations. Detections of PFAS in two rinsate samples were investigated and indicated that concentrations were similar to previous results for samples collected on that day and therefore not deemed to affect the outcome of this investigation. No further 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.</p> <p>The data are considered appropriate for use to meet the project objectives.</p>		
Field QA/QC			
Sampling personnel	Sampling was conducted by AECOM personnel from 4 October 2023 to 13 October 2023. Resampling was completed from 15 to 17 November 2023.		
Sampling Methodology	Groundwater, surface water and sediment samples were collected using appropriate methods as identified within the main body of the report. Hydrasleeves were installed in the well for a minimum of 24 hours prior to collection. Surface water samples were collected from immediately below the water surface. Sediment samples were collected from within the water body, where possible.		
Chain of Custody (COC)	COC documents completed as per AECOM procedures.		
Rinsate Blank	<p>Rinsate blank samples were collected at a frequency of one per day per piece of equipment that was decontaminated (twelve in total). Concentrations of all analytes tested were reported below the LOR for rinsate samples (refer Table C1 attached), except for:</p> <ul style="list-style-type: none"> 0874_QC352_231012 in batch ET2304991, which had detections for PFOS (0.01 ug/L), PFOS+PFHxS (0.01 ug/L) and Sum of PFAS (0.01 ug/L). This sample was collected off the interface probe (IP) on 12 October 2023. Comparison of this current round of data to previous results indicates that the samples are similar concentrations to previous, with no first-time detects or new exceedances of PFOS or PFOS+PFHxS in the samples collected on 12 October 2023. 0874_QC305_231012 in batch ET2304991, which had detections for 6:2 Fluorotelomer sulfonic acid (6:2 FTS). This sample was collected on 12 October 2023. Comparison of this current round of data shows results are similar to previous with no detects of 6:2 FTS above the LOR in any samples collected on 12 October 2023. 		

<p>Trip Blanks</p> <p>Eskies to Laboratory</p> <p>Frequency of field QC</p> <p>Handling and preservation</p> <p>Equipment Calibration</p>	<p>The presence of PFAS in these rinsate samples is not deemed to affect the outcome of this investigation.</p> <p>Trip blank samples were submitted to the laboratory at a rate of one per batch of primary samples delivered to the laboratory. One trip blank was submitted each, for batches ET2304829, ET2304975, ET2304991, 1035859/1039604 and ET2305576. Concentrations were reported below the LOR for all analytes tested in the trip blanks (Refer Table C1 attached).</p> <p>Note: The trip blank sample provided to the secondary laboratory in batch 1035859 was re-batched and analysed in 1039604.</p> <p>A total of five eskies of samples in two deliveries were submitted to ALS and one esky was submitted to Eurofins across the October 2023 sampling event. Batches ET2304975 and ET2304991 were submitted to the laboratory collectively in four eskies containing all samples. One esky in one delivery was submitted to ALS for the resampling in November 2023.</p> <p>Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a target frequency of one in ten primary samples. Target frequencies were met for all matrices with the following frequencies:</p> <ul style="list-style-type: none"> • Eleven duplicates and triplicates for groundwater (13.75%) • Four duplicates and triplicates for surface water (11.76%) • Five duplicates and triplicates for sediment (12.20%) <p>Primary, duplicate, and triplicate samples were received, preserved, and chilled at the laboratory. Sample receipt temperature was reported between 1.7°C and 4.0°C by the primary laboratory with attempt to chill evident. The temperature was not recorded by the secondary laboratory however an attempt to chill was recorded and the samples were noted as being received in good condition. The samples were stored in a fridge prior to direct delivery to the laboratory.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted. Upon receipt at the laboratory the samples were chilled prior to analysis.</p> <p>Calibration of the water quality meter was conducted each day before sampling, see Appendix F.</p>
<p>Laboratory QA/QC</p>	
<p>Tests requested/reported</p>	<p>Samples were analysed and reported as requested on the COC.</p>
<p>Holding time compliance</p>	<p>Samples were extracted and analysed within recommended holding times.</p>
<p>Laboratory Accreditation</p>	<p>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 Eurofins Brisbane, also a NATA accredited laboratory.</p>
<p>Frequency of laboratory QC</p>	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except:</p> <ul style="list-style-type: none"> • Laboratory duplicates for PFAS in water were below the expected rate of 10% in ET2304829 (at 5.56%) • Laboratory duplicates for PFAS in water were below the expected rate of 10% in ET2304991 (at 9.57%) • Matrix spikes for PFAS in water were below the expected rate of 5% in ET2304991 (at 4.26%) • Laboratory duplicates for PFAS in water were below the expected rate of 10% in ET2304975 (at 7.02%)

- Matrix spikes for PFAS in water were below the expected rate of 5% in ET2304975 (at 3.51%)
- Matrix spikes for PFAS in water were below the expected rate of 5% in ET2305576 (at 0%)

Sufficient additional sample volume was provided to the laboratory to enable analysis. The additional sample volume was not assigned by the laboratory system. AECOM are working with the laboratory to amend this issue going forwards.

Method Blank

Method blank value outliers were reported for Perfluorobutanoic acid (PFBA) in water in ET2304991. The non-conformance occurred as the blank result exceeded the permitted value (0.1ug/L). This indicates it is an artefact from the laboratory. No PFBA detects above the LOR were reported in batch ET2304991 and therefore the dataset is not affected by the method blank outlier.

Laboratory duplicate RPDs

Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples except for

- 0874_SD118_231019 in batch ET2304975 for PFHxS (35.6%), PFHxA (38.5%) and PFOA (52.5%)
- 0874_SW106_231011 in batch ET2304975 for PFOS (79.2%), PFOS+PFHxS (67.2%), and Sum of PFAS (66.2%).

The RPDs of these samples exceeded LOR based limits (0%-20%). It was noted that these samples showed poor replication due to sample heterogeneity.

Laboratory control spike (LCS) recovery

All LCS recoveries were reported within acceptable limits, except QC-5374514 in batch ET2304975, where:

- 8:2 FTS in soil reported a spike recovery (212%) above the acceptable limits of 65% – 137%.
- 10:2 FTS in soil recorded a spike recovery (175%) above the acceptable limits of 54.8% – 124%

This indicates that 8:2 FTS and 10:2 FTS concentrations may be reported higher than their true value. No detections of 8:2 FTS or 10:2 FTS were reported for samples in ET2304975 and therefore the dataset is not affected by the reported spike recovery above the acceptable limits.

Matrix spike recovery

All matrix spike (MS) recoveries were within control limits, except:

- 0874_MW063_231010 and 0874_MW243_231011 in batch ET2304991 for Perfluorohexane Sulfonic Acids PFHxS and PFOS where the recovery was not determined, due to the background level being greater than or equal to four times the spike level. This indicates that the concentration of PFAS within the sample was higher than the spiked concentration.
- 0874_SW010_231011 in batch ET2304975 for PFBA where the recovery (139%) was reported greater than the upper data quality objective (129%).
- 0874_SD102_231011 in batch ET2304975, where:
 - PFOS and PFHxS MS spike recoveries were not determined due to the background level being greater than or equal to four times the spike level. This indicates that the concentration of PFAS within the sample was higher than the spiked concentration.
 - 8:2 FTS (184%) and 10:2 FTS (142%) recoveries were reported greater than the upper data quality objectives (137% and 130%, respectively).

Where the MS recoveries were greater than the control limits, there is a potential that PFAS concentrations have been over-reported in these samples. Comparison of the results at SW010 for PFBA to the historical results indicates the results are within the same order of magnitude as previous results. Comparison of results for SD102 for 8:2 FTS and 10:2 FTS to the historical results indicates that the concentrations are the same, i.e., less than the LOR.

Surrogate spike recovery

- Surrogate spike recovery outliers were reported in batch ET2304975 for:
- 0874_SD106_231011 (177%) and 0874_SD108_231012 (156%) for 13C4-PFOS, where the recoveries were greater than the upper data quality objective (136%).
 - 0874_SD110_231012 (50%) and 0874_SD109_231012 (74%) for 13C4-PFOS, where the recoveries were less than the lower data quality objective (76%)
 - 0874_QC107_231011 for 13C8-PFOA, where the recovery (75%) was less than the lower data quality objective (78.1%)

Where the surrogate spike recoveries were greater than the control limits, there is a potential that PFAS concentrations have been over-reported in these samples. PFOS results for these sediment sites in October 2023 were comparable to the previous results, however SD106 recorded a new historical maximum (0.146 mg/kg) within the same order of magnitude as the previous maximum (0.0706 mg/kg). There were no new detections of PFOS at SD106, SD108, SD110, or SD109.

Where the surrogate spike recoveries were lower than the control limits, there is a potential that PFAS concentrations have been under-reported in these samples. Duplicate sample 0874_QC107_231012 reported a concentration (0.0364 mg/kg) slightly lower than the primary sample location SD123 (0.0432 mg/kg), with an acceptable RPD value (17%). Therefore, the dataset is not affected by the surrogate spike recovery outlier.

QA/QC Data Evaluation

Comparison of Field Observations and Laboratory Results

No anomalous results between field observations and analysis results were noted. Except for SD016, MW015 and MW021:

SD016 – Results were more than an order of magnitude higher than historical results. Re-sampling of the location was completed in November, and the results were consistent with previous historical results. The November results are therefore accepted as the 2023 dry season results.

MW015 – Results were more than an order of magnitude lower than historical results. Resampling of the location was completed in November, and results are consistent with historical results. The November results are accepted as the 2023 dry season results.

MW021 – Results were greater than an order of magnitude lower than historical concentrations. Resampling of the location was completed, and the results are more consistent with historical results. The November results are therefore accepted as the 2023 dry season results.

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

Limit of Reporting (LOR) values were adjusted for a range of various analytes due to sample matrix interference or high analyte concentrations for **all groundwater samples**, as well as for the following surface water and sediment samples:

Batch	Surface water	Sediment
ET2304829	0874_SW115_231003	-
ET2304975	0874_SW123_231011, 0874_SW126_231011, 0874_SW131_231011, 0874_SW001_231011, 0874_SW010_231011, 0874_SW132_231011, 0874_SW110_231012,	0874_SD016_231011, 0874_SD123_231011, 0874_SD125_231011, 0874_SD010_231011, 0874_SD106_231011, 0874_SD121_231011, 0874_SD102_231011,

	0874_SW111_231012, 0874_SW109_231012, 0874_SW117_231009, 0874_SW118_231009, 0874_SW119_231009, 0874_SW107_231012	0874_SD127_231009, 0874_SD113_231009, 0874_SD117_231009, 0874_SD118_231009, 0874_SD119_231009, 0874_SD208_231012, 0874_SD209_231011, 0874_SD107_231012
--	---	---

The adjusted LORs were sufficiently low to enable assessment against adopted screening levels in these samples.

Field duplicate RPDs

Field duplicate RPDs (as shown in **Tables C2, C3 and C4**) were reported within control limits except between:

- 0874_MW055_231010 and **0874_QC152_231010** for PFPeS (31%).
- 0874_MW061_231012 and **0874_QC155_231012** for EtFOSA (133%), MFOSAA (143%), PFDA (86%), PFDoDA (141%), PFHpS (37%), PFNA (71%), PFTeDA (150%), PFTrDA (148%), and PFUnDA (127%).
- **0874_SW123_231011** and 0874_QC108_231011 for Sum of PFAS (32%), PFOS+PFHxS (38%) and PFOS (47%).
- 0874_SD123_231011 and **0874_QC107_231011** for PFOS (41%).
-

The sample with the higher concentration is in bold.

Duplicate concentrations were within the same order of magnitude with some varying by one order of magnitude compared to the concentrations in the primary sample and this is not considered to impact interpretation of results.

Field triplicate RPDs

Field triplicate RPDs (as shown in **Tables C2, C3 and C4**) were reported within control limits for all sample sets with the exception of the following:

- **0874_MW206_231010** and 0874_QC205_231010 for PFBS (45%) and PFPeS (57%).
- **0874_MW009_231010** and 0874_QC251_231010 for PFPeS (49%), sum of PFAS (33%), PFOS+PFHxS (38%), and PFOS (59%).
- **0874_MW055_231010** and 0874_QC252_231010 for PFBS (47%), and PFHxA (40%).
- **0874_MW265_231011** and 0874_QC254_231011 for PFPeS (56%).
- **0874_MW061_231012** and 0874_QC255_231012 for PFPeS (54%).
- **0874_SW123_231011** and 0874_QC208_231011 for PFPeS (45%), PFPeA (43%), Sum of PFAS (35%), PFOS+PFHxS (44%), and PFOS (57%).
- **0874_SD123_231011** and 0874_QC207_231011 for PFPeS (58%), PFOA (113%), and PFHxS (32%).

The sample with the higher concentration is in bold.

Triplicate concentrations were generally within the same order of magnitude compared to the concentrations in the primary sample and this is not considered to impact interpretation of results. The field triplicate RPDs are generally higher for samples analysed by ALS compared to Eurofins. The variability between the primary and triplicate results is inferred to be the result of slight differences in analytical methods and difference in extraction techniques employed by the two laboratories. This is demonstrated through the laboratory duplicate results generally being within acceptable limits.

Other Observations

Anomalous results reported for three locations (MW015, MW021 and SD016) were resampled and the new results accepted as they were more consistent with historical concentrations.

Table C1 - Rinsate and Trip Blanks

Lab Report Number	ET2304829	ET2304975	ET2304991	1039604	ET2305576
Field ID	0874 QC500 231006	0874 QC501 231013	0874 QC550 231013	0874 QC502 231013	0874 QC510 231117
Date	6/10/2023 14:14	13/10/2023 14:16	13/10/2023 14:19	13/10/2023	17/11/2023 8:30
Sample Type	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank

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

Lab Report Number	ET2304975	ET2304975		1035859		ET2304975	ET2304975		1035859		ET2304991	ET2304991		1035859	
Field ID	0874_MW206_231010	0874_QC105_231010	RPD	0874_QC205_231010	RPD	0874_MW217_231010	0874_QC106_231010	RPD	0874_QC206_231010	RPD	0874_MW251_231009	0874_QC150_231009	RPD	0874_QC250_231009	RPD
Date	10/10/2023 9:48	10/10/2023 9:48		10/10/2023 9:48		10/10/2023 12:39	10/10/2023 12:39		10/10/2023 12:39		9/10/2023 9:44	9/10/2023 9:44		9/10/2023 9:44	
Matrix Type	Water	Water		Water		Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL															
10:2 Fluorotelomer sulfonic acid (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
4:2 Fluorotelomer sulfonic acid (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 Fluorotelomer sulfonic acid (6:2 FTS)	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
8:2 Fluorotelomer sulfonic acid (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
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.06	<0.11	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.04	0	<0.05	0	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.06	<0.11	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.06	<0.11	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.04	0	<0.05	0	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.06	<0.11	0	<0.05	0	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	2.05	1.8	13	1.3	45	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0.7	0.6	15	0.6	15	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.17	0.15	13	0.05	109	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.33	0.31	6	0.28	16	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	5.03	4.51	11	3.8	28	<0.02	<0.02	0	<0.01	0	0.04	0.03	29	0.03	29
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.04	0	<0.05	0	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	1.98	2.05	3	1.1	57	<0.02	<0.02	0	<0.01	0	0.02	<0.02	0	0.01	67
Perfluoropentanoic acid (PFPeA)	µg/L	0.02 : 0.01 (Interlab)	0.91	0.88	3	0.83	9	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.01 (Interlab)	<0.06	<0.11	0	<0.01	0	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Sum of PFAS	µg/L	0.01 : 0.1 (Interlab)	23.7	22.8	4	21.62	9	0.01	0.02	67	<0.1	0	0.37	0.33	11	0.28	28
Sum of PFHxS and PFOS	µg/L	0.01	12.4	12.4	0	13.03	5	0.01	0.02	67	0.06	143	0.31	0.3	3	0.23	30
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.02	<0.04	0	0.03	40	0.01	0.02	67	0.04	120	0.13	0.14	7	0.09	36
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.12	0.11	9	0.11	9	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	12.4	12.4	0	13	5	<0.01	<0.01	0	0.02	67	0.18	0.16	12	0.14	25

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (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

Lab Report Number	ET2304991	ET2304991		1035859		ET2304991	ET2304991		1035859		ET2304991	ET2304991		1035859
Field ID	0874_MW009_231010	0874_QC151_231010	RPD	0874_QC251_231010	RPD	0874_MW055_231010	0874_QC152_231010	RPD	0874_QC252_231010	RPD	0874_MW081_231011	0874_QC153_231011	RPD	0874_QC253_231011
Date	10/10/2023 11:11	10/10/2023 11:11		10/10/2023 11:11		10/10/2023 14:03	10/10/2023 14:03		10/10/2023 14:03		11/10/2023 11:22	11/10/2023 11:22		11/10/2023 11:22
Matrix Type	Water	Water		Water		Water	Water		Water		Water	Water		Water
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate

Chemical Name	Units	EQL														
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	<0.1
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	<0.1
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<5	<0.5	0	<0.05	0	<5	<5	0	<0.1
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	<0.1
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.06	<0.1	0	<0.05	0	<12.5	<1.25	0	<0.05	0	<12.5	<12.5	0	<0.2
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.04	0	<0.05	0	<5	<0.5	0	<0.05	0	<5	<5	0	<0.2
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.06	<0.1	0	<0.05	0	<12.5	<1.25	0	<0.05	0	<12.5	<12.5	0	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.06	<0.1	0	<0.05	0	<12.5	<1.25	0	<0.05	0	<12.5	<12.5	0	<0.2
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.04	0	<0.05	0	<5	<0.5	0	<0.05	0	<5	<5	0	<0.2
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.06	<0.1	0	<0.05	0	<12.5	<1.25	0	<0.05	0	<12.5	<12.5	0	<0.2
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	1.87	1.93	3	1.4	29	6	5.8	3	3.7	47	76.5	71.5	7	92
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0.5	0.5	0	0.45	11	<25	<2.5	0	1.4	0	<25	<25	0	10
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.1	0	<5	<0.5	0	<0.1	0	<5	<5	0	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	<0.1
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	0.14
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	1.38	1.28	8	1.8	26	<5	2.55	0	2.8	0	164	167	2	210
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.62	0.67	8	0.59	5	<5	1.85	0	1.5	0	32	31	3	38
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	5.1	4.98	2	4	24	15	15.8	5	10	40	234	220	6	290
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<5	<0.5	0	0.04	0	<5	<5	0	0.41
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.05 (Interlab)	<0.16	<0.14	0	0.19	17	<5	<0.5	0	0.57	0	<5	<5	0	0.2
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	2.3	2.2	4	1.4	49	<5	6.85	31	4	0	114	106	7	96
Perfluoropentanoic acid (PFPeA)	µg/L	0.02 : 0.01 (Interlab)	0.91	0.86	6	0.82	10	<5	3.25	0	2.8	0	29	29.5	2	38
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.01 (Interlab)	<0.06	<0.1	0	<0.01	0	<12.5	<1.25	0	<0.01	0	<12.5	<12.5	0	0.27
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	0.17
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.04	0	<0.01	0	<5	<0.5	0	<0.01	0	<5	<5	0	<0.1
Sum of PFAS	µg/L	0.01 : 0.1 (Interlab)	74	63.6	15	53.21	33	171	195	13	200.91	16	4210	4310	2	4911.19
Sum of PFHxS and PFOS	µg/L	0.01	59	48.9	19	40	38	150	153	2	167	11	3470	3590	3	4000
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	42.3	33.2	24	23	59	107	106	1	120	11	1710	1780	4	2000
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	2.28	2.23	2	1.7	29	<5	5.65	12	5.1	2	91	97	6	100
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	16.7	15.7	6	17	2	43	46.9	9	47	9	1760	1810	3	2000

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (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

Lab Report Number	ET2304991		ET2304991		1035859		ET2304991		ET2304991		1035859		ET2304991		ET2304991		1035859	
Field ID	0874_MW265_231011		0874_QC154_231011		0874_QC254_231011		0874_MW061_231012		0874_QC155_231012		0874_QC255_231012		0874_MW229_231012		0874_QC156_231012		0874_QC256_231012	
Date	11/10/2023 14:21		11/10/2023 14:21		11/10/2023 14:21		12/10/2023 10:42		12/10/2023 10:42		12/10/2023 10:42		12/10/2023 14:52		12/10/2023 14:52		12/10/2023 14:52	
Matrix Type	Water		Water		Water		Water		Water		Water		Water		Water		Water	
Sample Type	Primary		Duplicate		Triplicate		Primary		Duplicate		Triplicate		Primary		Duplicate		Triplicate	

Chemical Name	Units	EQL	0	<0.05	<0.05	0	<0.01	0	<0.1	0.21	71	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0	<0.05	<0.05	0	<0.01	0	<0.1	0.21	71	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0	<0.05	<0.05	0	<0.01	0	<0.1	<0.1	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	0	<0.05	<0.05	0	<0.05	0	<0.1	<0.1	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0	<0.05	<0.05	0	<0.01	0	<0.1	<0.1	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	0	<0.05	<0.05	0	<0.05	0	<0.24	<0.25	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.05 (Interlab)	0	<0.02	<0.02	0	<0.05	0	<0.1	0.5	133	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	0	<0.05	<0.05	0	<0.05	0	<0.24	0.25	4	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	0	<0.05	<0.05	0	<0.05	0	<0.24	<0.25	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.05 (Interlab)	0	<0.02	<0.02	0	<0.05	0	<0.1	0.6	143	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	0	<0.05	<0.05	0	<0.05	0	<0.24	<0.25	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	18	0.4	0.39	3	0.36	11	0.41	0.42	2	0.34	19	<0.02	<0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0	<0.1	<0.1	0	<0.05	0	<0.5	<0.5	0	0.25	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	0	<0.02	<0.02	0	<0.01	0	<0.1	0.2	67	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	0	<0.02	<0.02	0	<0.01	0	<0.1	0.25	86	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	0	<0.02	<0.02	0	<0.01	0	<0.1	0.58	141	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	25	0.04	0.05	22	0.06	40	0.31	0.45	37	0.33	6	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	17	<0.02	<0.02	0	0.02	0	0.14	0.16	13	0.15	7	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	21	0.16	0.15	6	0.16	0	1.14	1.13	1	1.1	4	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0	<0.02	<0.02	0	<0.01	0	<0.1	0.21	71	0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.05 (Interlab)	0	<0.02	<0.02	0	<0.05	0	<0.1	<0.1	0	<0.05	0	<0.02	<0.02	0	<0.05	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	17	0.23	0.23	0	0.13	56	0.54	0.52	4	0.31	54	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02 : 0.01 (Interlab)	27	0.04	0.03	29	0.04	0	0.25	0.23	8	0.25	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.01 (Interlab)	0	<0.05	<0.05	0	<0.01	0	<0.24	1.69	150	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.02 : 0.01 (Interlab)	0	<0.02	<0.02	0	<0.01	0	<0.1	0.67	148	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	0	<0.02	<0.02	0	<0.01	0	<0.1	0.45	127	<0.01	0	<0.02	<0.02	0	<0.01	0
Sum of PFAS	µg/L	0.01 : 0.1 (Interlab)	15	2.7	2.71	0	2.64	2	26.4	31.3	17	25.4	4	<0.01	<0.01	0	<0.1	0
Sum of PFHxS and PFOS	µg/L	0.01	14	1.79	1.82	2	1.67	7	23	22.1	4	22	4	<0.01	<0.01	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	16	0.75	0.8	6	0.57	27	17.1	16.2	5	17	1	<0.01	<0.01	0	<0.01	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	9	0.04	0.04	0	0.04	0	0.55	0.67	20	0.5	10	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	13	1.04	1.02	2	1.1	6	5.91	5.9	0	5	17	<0.01	<0.01	0	<0.01	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (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

Lab Report Number	ET2304991	ET2304991		1035859	
Field ID	0874_MW207_231012	0874_QC111_231012		0874_QC211_231012	
Date	12/10/2023 15:47	12/10/2023 15:47	RPD	12/10/2023 15:47	RPD
Matrix Type	Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL					
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.1	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.1	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.5	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.1	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.2	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	0	<0.2	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.2	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.2	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	0	<0.2	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.2	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.02	<0.02	0	<0.1	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.5	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	0	<0.2	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.1	0
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.1	0
Sum of PFAS	µg/L	0.01 : 0.1 (Interlab)	0.03	0.01	100	<0.5	0
Sum of PFHxS and PFOS	µg/L	0.01	0.01	0.01	0	<0.1	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	0	<0.1	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.1	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.01	0.01	0	<0.1	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (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

Lab Report Number	ET2304829	ET2304829		1035859		ET2304975	ET2304975		1035859	
Field ID	0874_SW207_231006	0874_QC100_231006		0874_QC200_231006		0874_SW127_231009	0874_QC103_231009		0874_QC203_231009	
Date	6/10/2023 9:21	6/10/2023 9:21	RPD	6/10/2023 9:21	RPD	9/10/2023 11:54	9/10/2023 11:54	RPD	9/10/2023 11:54	RPD
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (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
4:2 Fluorotelomer sulfonic acid (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
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (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
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	0.02	0	<0.02	<0.02	0	0.02	0
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Sum of PFAS	µg/L	0.01 : 0.1 (Interlab)	0.09	0.09	0	0.1	11	0.04	0.04	0	0.1	86
Sum of PFHxS and PFOS	µg/L	0.01	0.09	0.09	0	0.08	12	0.04	0.04	0	0.08	67
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.05	0.05	0	0.04	22	0.02	0.02	0	0.04	67
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.04	0.04	0	0.04	0	0.02	0.02	0	0.04	67

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

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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

Lab Report Number	ET2304975	ET2304975		1035859		ET2304975	ET2304975		1035859	
Field ID	0874_SW123_231011	0874_QC108_231011		0874_QC208_231011		0874_SW109_231012	0874_QC109_231012		0874_QC209_231012	
Date	11/10/2023 12:09	11/10/2023 12:09	RPD	11/10/2023 12:09	RPD	12/10/2023 11:28	12/10/2023 11:28	RPD	12/10/2023 11:28	RPD
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.21	<0.21	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.21	<0.21	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.21	<0.21	0	0.1	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.21	<0.21	0	0.04	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.52	<0.52	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.21	<0.21	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.52	<0.52	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.52	<0.52	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.05 (Interlab)	<0.21	<0.21	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.52	<0.52	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	2	1.96	2	1.6	22	<0.04	<0.06	0	0.02	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<1.2	<1.2	0	0.98	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.21	<0.21	0	<0.1	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.21	<0.21	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.21	<0.21	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	1	0.9	11	1.3	26	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.6	0.54	11	0.54	11	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	6.35	5.96	6	4.8	28	0.05	0.05	0	0.04	22
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.21	<0.21	0	0.04	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.05 (Interlab)	<0.21	<0.21	0	0.15	0	<0.02	<0.02	0	<0.05	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	1.9	1.73	9	1.2	45	0.02	0.02	0	0.01	67
Perfluoropentanoic acid (PFPeA)	µg/L	0.02 : 0.01 (Interlab)	1.29	1.31	2	2	43	<0.02	<0.02	0	0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.01 (Interlab)	<0.52	<0.52	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02 : 0.01 (Interlab)	<0.21	<0.21	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.21	<0.21	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Sum of PFAS	µg/L	0.01 : 0.1 (Interlab)	89.6	64.9	32	63.05	35	0.31	0.31	0	0.3	3
Sum of PFHxS and PFOS	µg/L	0.01	75.2	51.2	38	48	44	0.22	0.22	0	0.2	10
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	62.8	39	47	35	57	0.11	0.12	9	0.09	20
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	1.27	1.29	2	1.2	6	0.02	0.02	0	0.02	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	12.4	12.2	2	13	5	0.11	0.1	10	0.11	0

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

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 Field Duplicates and Triplicates

Lab Report Number	ET2304829	ET2304829		1035859		ET2304975	ET2304975		1035859	
Field ID	0874_SD207_231006	0874_QC101_231006		0874_QC201_231006		0874_SD127_231009	0874_QC102_231009		0874_QC202_231009	
Date	6/10/2023 9:20	6/10/2023 9:20	RPD	6/10/2023 9:20	RPD	9/10/2023 11:53	9/10/2023 11:53	RPD	9/10/2023 11:53	RPD
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005 : 0.01 (Interlab)	<0.0005	<0.0005	0	<0.01	0	<0.0005	<0.0005	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.01 (Interlab)	<0.0002	<0.0002	0	<0.01	0	<0.0002	<0.0002	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.01 (Interlab)	<0.0002	<0.0002	0	<0.01	0	<0.0002	<0.0002	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001 : 0.005 (Interlab)	<0.001	<0.001	0	<0.005	0	<0.001	<0.001	0	<0.005	0
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0006	0.0003	67	<0.005	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0015	<0.0002	0	<0.005	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Sum of PFAS	mg/kg	0.0002 : 0.05 (Interlab)	0.0015	0.0019	24	<0.05	0	0.0006	0.0003	67	<0.05	0
Sum of PFHxS and PFOS	mg/kg	0.0002 : 0.005 (Interlab)	0.0015	0.0019	24	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.005 (Interlab)	0.0015	0.0019	24	<0.005	0	<0.0002	<0.0005	0	<0.005	0
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0

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

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 Field Duplicates and Triplicates

Lab Report Number	ET2304975	ET2304975		1035859		ET2304975	ET2304975		1035859	
Field ID	0874_SD114_231009	0874_QC104_231009		0874_QC204_231009		0874_SD123_231011	0874_QC107_231011		0874_QC207_231011	
Date	9/10/2023 15:59	9/10/2023 15:59	RPD	9/10/2023 15:59	RPD	11/10/2023 12:08	11/10/2023 12:08	RPD	11/10/2023 12:08	RPD
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005 : 0.01 (Interlab)	<0.0005	<0.0005	0	<0.01	0	<0.001	<0.0025	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0025	<0.0062	0	<0.005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.01 (Interlab)	<0.0002	<0.0002	0	<0.01	0	<0.001	<0.0025	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0025	<0.0062	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0025	<0.0062	0	<0.005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.01 (Interlab)	<0.0002	<0.0002	0	<0.01	0	<0.001	<0.0025	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0025	<0.0062	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0082	0.0086	5	0.0065	23
Perfluorobutanoic acid (PFBA)	mg/kg	0.001 : 0.005 (Interlab)	0.002	<0.001	67	<0.005	0	<0.005	<0.012	0	<0.005	0
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0012	<0.0025	0	<0.005	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0514	0.0616	18	0.048	7
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0058	0.0067	14	<0.005	15
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.005 (Interlab)	0.0002	<0.0002	0	<0.005	0	0.0264	0.0303	14	0.029	9
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0142	0.0169	17	0.0078	58
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0042	0.0051	19	<0.005	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0025	<0.0062	0	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	<0.001	<0.0025	0	<0.005	0
Sum of PFAS	mg/kg	0.0002 : 0.05 (Interlab)	0.0084	0.0063	29	<0.05	0	1.61	2.12	27	1.6521	3
Sum of PFHxS and PFOS	mg/kg	0.0002 : 0.005 (Interlab)	0.0062	0.0063	2	0.0075	19	1.46	1.96	29	1.54	5
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.005 (Interlab)	0.0056	0.0057	2	0.0075	29	0.988	1.5	41	1.2	19
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0	0.0432	0.0364	17	0.012	113
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.005 (Interlab)	0.0006	0.0006	0	<0.005	0	0.469	0.457	3	0.34	32

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

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 Field Duplicates and Triplicates

Lab Report Number	ET2304975	ET2304975		1035859	
Field ID	0874_SD109_231012	0874_QC110_231012		0874_QC210_231012	
Date	12/10/2023 11:33	12/10/2023 11:33	RPD	12/10/2023 11:33	RPD
Matrix Type	Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL					
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005 : 0.01 (Interlab)	<0.0005	<0.0005	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.01 (Interlab)	<0.0002	<0.0002	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.01 (Interlab)	<0.0002	<0.0002	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001 : 0.005 (Interlab)	<0.001	<0.001	0	<0.005	0
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0
Sum of PFAS	mg/kg	0.0002 : 0.05 (Interlab)	0.0009	0.0011	20	<0.05	0
Sum of PFHxS and PFOS	mg/kg	0.0002 : 0.005 (Interlab)	0.0006	0.0008	29	<0.005	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.005 (Interlab)	0.0006	0.0008	29	<0.005	0
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.005 (Interlab)	0.0003	0.0003	0	<0.005	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.005 (Interlab)	<0.0002	<0.0002	0	<0.005	0

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

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 Records



Environmental Division
Townsville
Work Order Reference
ET2304829



Telephone : + 61 7 4773 0906

Custody Document for Submissions via ALS Compass App

Project: 60612487 Client: AECOM Project Manager: [REDACTED]
 Phone: ([REDACTED])
 ALS Compass CDC Reference: 58360 # Samples: _____ Sampler: [REDACTED]
 Phone: ([REDACTED])

Turnaround Requirements: Standard YES Urgent _____

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

Custody:			
Relinquished by:	Received by:	Relinquished by:	Received by:
	<u>[REDACTED]</u>		<u>[REDACTED]</u>
Date / Time:	Date / Time: <u>6/10 3:35</u>	Date / Time:	Date / Time: <u>10/10/23 8:00</u>

**CHAIN OF CUSTODY**

COC#: 58360

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:



10/10/23 8:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_23

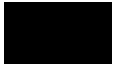
SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:



CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU001

7

TURNAROUND REQUIREMENTS : 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	
001	0874_QC100_231006		06/10/2023 09:25 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
002	0874_SD207_231006		06/10/2023 09:20 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
003	0874_SD205_231006		06/10/2023 10:25 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
004	0874_SD204_231006		06/10/2023 11:25 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
005	0874_SD203_231006		06/10/2023 11:05 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
006	0874_SD206_231006		06/10/2023 09:56 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
007	0874_SD115_231003		03/10/2023 11:11 AM	SOIL	ALS: 1 Non ALS: 0	No		X		



CHAIN OF CUSTODY

COC#: 58360

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

10/10/23 8:40

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL		
008	0874_SD202_231006		06/10/2023 08:09 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
009	0874_QC500_231006		06/10/2023 02:14 PM	WATER	ALS: 2 Non ALS: 0	No	X			
010	0874_SW115_231003		03/10/2023 11:16 PM	WATER	ALS: 2 Non ALS: 0	No	X			
011	0874_QC300_231003		03/10/2023 11:17 AM	WATER	ALS: 2 Non ALS: 0	No	X			
012	0874_SW202_231006		06/10/2023 08:05 AM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
013	0874_SW203_231006		06/10/2023 11:05 AM	WATER	ALS: 2 Non ALS: 0	No	X			
014	0874_SW204_231006		06/10/2023 11:26 AM	WATER	ALS: 2 Non ALS: 0	No	X			

**CHAIN OF CUSTODY**

COC#: 58360

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

10/10/23 8:00



CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_23

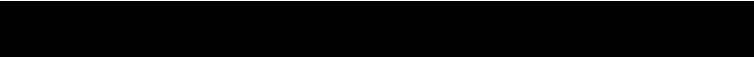
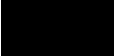
SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:



CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU001
7

TURNAROUND REQUIREMENTS: 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	
015	0874_SW205_231006		06/10/2023 10:25 AM	WATER	ALS: 2 Non ALS: 0	No	X			
016	0874_SW206_231006		06/10/2023 09:50 AM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
017	0874_SW207_231006		06/10/2023 09:21 AM	WATER	ALS: 2 Non ALS: 0	No	X			
018	0874_QC301_231006		06/10/2023 02:28 PM	WATER	ALS: 2 Non ALS: 0	No	X			
019	0874_QC100_231006		06/10/2023 09:25 AM	WATER	ALS: 2 Non ALS: 0	No	X			

**CHAIN OF CUSTODY**

COC#: 58360

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:


RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:


 10/10/23
 8:00

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_23

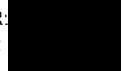
SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:



CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU001

7

TURNAROUND REQUIREMENTS: 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_QC100_231006	HDPE Soil Jar	200 mL	00621122094333	Grey	No	
002	0874_SD207_231006	HDPE Soil Jar	200 mL	00621122094356	Grey	No	
003	0874_SD205_231006	HDPE Soil Jar	200 mL	00621122094281	Grey	No	
004	0874_SD204_231006	HDPE Soil Jar	200 mL	00621122094313	Grey	No	
005	0874_SD203_231006	HDPE Soil Jar	200 mL	00621122094246	Grey	No	
006	0874_SD206_231006	HDPE Soil Jar	200 mL	00621122094277	Grey	No	
007	0874_SD115_231003	HDPE Soil Jar	200 mL	00621122094280	Grey	No	
008	0874_SD202_231006	HDPE Soil Jar	200 mL	00621122094282	Grey	No	
009	0874_QC500_231006	HDPE (no PTFE)	20 mL	00350522063749	Grey	No	
009	0874_QC500_231006	HDPE (no PTFE)	20 mL	00350522063744	Grey	No	
010	0874_SW115_231003	HDPE (no PTFE)	20 mL	00350822007535	Grey	No	
010	0874_SW115_231003	HDPE (no PTFE)	20 mL	00350822007693	Grey	No	
011	0874_QC300_231003	HDPE (no PTFE)	20 mL	00350822007456	Grey	No	
011	0874_QC300_231003	HDPE (no PTFE)	20 mL	00350822007449	Grey	No	
012	0874_SW202_231006	HDPE (no PTFE)	20 mL	00350822007441	Grey	No	
012	0874_SW202_231006	HDPE (no PTFE)	20 mL	00350822007490	Grey	No	
012	0874_SW202_231006	HDPE (no PTFE)	20 mL	00350822007559	Grey	No	
012	0874_SW202_231006	HDPE (no PTFE)	20 mL	00350822007538	Grey	No	
013	0874_SW203_231006	HDPE (no PTFE)	20 mL	00350822007653	Grey	No	
013	0874_SW203_231006	HDPE (no PTFE)	20 mL	00350822007525	Grey	No	
014	0874_SW204_231006	HDPE (no PTFE)	20 mL	00350822007651	Grey	No	
014	0874_SW204_231006	HDPE (no PTFE)	20 mL	00350822007582	Grey	No	
015	0874_SW205_231006	HDPE (no PTFE)	20 mL	00350822007599	Grey	No	
015	0874_SW205_231006	HDPE (no PTFE)	20 mL	00350822007740	Grey	No	
016	0874_SW206_231006	HDPE (no PTFE)	20 mL	00350822007731	Grey	No	
016	0874_SW206_231006	HDPE (no PTFE)	20 mL	00350822007601	Grey	No	

**CHAIN OF CUSTODY**

COC#: 58360

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001
7

016	0874_SW206_231006	HDPE (no PTFE)	20 mL	00350822007626	Grey	No	
016	0874_SW206_231006	HDPE (no PTFE)	20 mL	00350822007585	Grey	No	
017	0874_SW207_231006	HDPE (no PTFE)	20 mL	00350822007725	Grey	No	
017	0874_SW207_231006	HDPE (no PTFE)	20 mL	00350822007692	Grey	No	
018	0874_QC301_231006	HDPE (no PTFE)	20 mL	00350822007541	Grey	No	
018	0874_QC301_231006	HDPE (no PTFE)	20 mL	00350822007473	Grey	No	
019	0874_QC100_231006	HDPE (no PTFE)	20 mL	00350822007674	Grey	No	
019	0874_QC100_231006	HDPE (no PTFE)	20 mL	00350822007625	Grey	No	

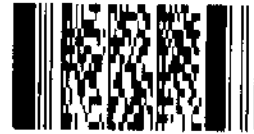
Total Bottle Count: ALS: 34, Non ALS: 0



ALS Compass
SAMPLING *Intelligence*



Environmental Division
Townsville
Work Order Reference
ET2304975



Telephone : + 61 / 4773 0000

Custody Document for Submissions via ALS Compass App

Project: 60612487-2.1 Client: AECOM Project Manager: [Redacted]
Phone: [Redacted]

ALS Compass Code Reference: 58433 # Samples: 85 Sampler: [Redacted]
Phone: [Redacted]

Turnaround Requirements: Standard Urgent

Special Instructions: Extra Volume: SW017, SW117, SW010, SW106, SW108 MW205, MW264, MW215, MW252, MW263	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:		Received by: <u>[Redacted]</u>	
Relinquished by: <u>[Redacted]</u>	Received by: <u>[Redacted]</u>	Relinquished by: <u>[Redacted]</u>	Received by: <u>[Redacted]</u>
Date / Time: <u>13/10/23 4:15pm</u>	Date / Time: <u>13/10/23 4:15pm</u>	Date / Time: <u>13/10/23</u>	Date / Time: <u>11/10/23 8:00</u>

SCANNED



CHAIN OF CUSTODY

QC#: 58433

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	
001	0874_SW201_231009		09/10/2023 11:28 AM	WATER	ALS: 2 Non ALS: 0	No	X			
002	0874_SW129_231009		09/10/2023 11:30 AM	WATER	ALS: 2 Non ALS: 0	No	X			
003	0874_SD201_231009		09/10/2023 11:31 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
004	0874_SD129_231009		09/10/2023 11:32 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
005	0874_SD127_231009		09/10/2023 11:53 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
006	0874_SW127_231009		09/10/2023 11:54 AM	WATER	ALS: 2 Non ALS: 0	No	X			
007	0874_QC102_231009		09/10/2023 11:56 AM	SOIL	ALS: 1 Non ALS: 0	No		X		



CHAIN OF CUSTODY

DOC#: 58433

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0874_QC103_231009		09/10/2023 11:57 AM	WATER	ALS: 2 Non ALS: 0	No	X			
009	0874_SD120_231009		09/10/2023 01:07 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
010	0874_SW017_231009		09/10/2023 01:21 PM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
011	0874_SD017_231009		09/10/2023 01:22 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
012	0874_SD021_231009		09/10/2023 01:52 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
013	0874_SW021_231009		09/10/2023 01:53 PM	WATER	ALS: 2 Non ALS: 0	No	X			
014	0874_SD119_231009		09/10/2023 02:27 PM	SOIL	ALS: 1 Non ALS: 0	No		X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0874_SW119_231009		09/10/2023 02:28 PM	WATER	ALS: 2 Non ALS: 0	No	X			
016	0874_SD113_231009		09/10/2023 03:08 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
017	0873_SW113_231009		09/10/2023 03:09 PM	WATER	ALS: 2 Non ALS: 0	No	X			
018	0874_SW117_231009		09/10/2023 03:23 PM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
019	0874_SD117_231009		09/10/2023 03:24 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
020	0874_SD118_231009		09/10/2023 03:36 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
021	0874_SW118_231009		09/10/2023 03:39 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:
 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0874_SD114_231009		09/10/2023 03:59 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
023	0874_QC104_231009		09/10/2023 04:00 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
024	0884_QC302_231009		09/10/2023 04:17 PM	WATER	ALS: 2 Non ALS: 0	No	X			
025	0874_MW205_231010		10/10/2023 09:25 AM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
026	0874_MW206_231010		10/10/2023 09:46 AM	WATER	ALS: 2 Non ALS: 0	No	X			
027	0874_QC105_231010		10/10/2023 09:49 AM	WATER	ALS: 2 Non ALS: 0	No	X			
028	0874_MW212_231010		10/10/2023 10:10 AM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0874_MW214_231010		10/10/2023 10:35 AM	WATER	ALS: 2 Non ALS: 0	No	X			
030	0874_MW264_231010		10/10/2023 11:39 AM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
031	0874_MW216_231010		10/10/2023 11:57 AM	WATER	ALS: 2 Non ALS: 0	No	X			
032	0874_MW217_231010		10/10/2023 12:39 PM	WATER	ALS: 2 Non ALS: 0	No	X			
033	0874_QC106_231010		10/10/2023 12:40 PM	WATER	ALS: 2 Non ALS: 0	No	X			
034	0874_QC302_231010		10/10/2023 12:51 PM	WATER	ALS: 2 Non ALS: 0	No	X			
035	0874_MW218_231010		10/10/2023 02:07 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
038	0874_MW212_231010		10/10/2023 02:39 PM	WATER	ALS: 2 Non ALS: 0	No	X			
037	0874_MW225_231010		10/10/2023 02:57 PM	WATER	ALS: 2 Non ALS: 0	No	X			
038	0874_SW112_231011		11/10/2023 09:34 AM	WATER	ALS: 2 Non ALS: 0	No	X			
039	0874_SD112_231011		11/10/2023 09:35 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
040	0874_SW014_231011		11/10/2023 10:11 AM	WATER	ALS: 2 Non ALS: 0	No	X			
041	0874_SD014_231011		11/10/2023 10:12 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
042	0874_SD121_231011		11/10/2023 10:40 AM	SOIL	ALS: 1 Non ALS: 0	No		X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
043	0874_SD010_231011		11/10/2023 11:04 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
044	0874_SW010_231011		11/10/2023 11:06 AM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
045	0874_SD132_231011		11/10/2023 11:25 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
046	0874_SW132_231011		11/10/2023 11:26 AM	WATER	ALS: 2 Non ALS: 0	No	X			
047	0874_SD001_231011		11/10/2023 11:31 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
048	0874_SW001_231011		11/10/2023 11:32 AM	WATER	ALS: 2 Non ALS: 0	No	X			
049	0874_SD123_231011		11/10/2023 12:08 PM	SOIL	ALS: 1 Non ALS: 0	No		X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
050	0874_QC107_231011		11/10/2023 12:08 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
051	0874_SW123_231011		11/10/2023 12:09 PM	WATER	ALS: 2 Non ALS: 0	No	X			
052	0874_QC108_231011		11/10/2023 12:12 PM	WATER	ALS: 2 Non ALS: 0	No	X			
053	0874_SD102_231011		11/10/2023 12:39 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
054	0874_SD013_231011		11/10/2023 01:13 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
055	0874_SD016_231011		11/10/2023 01:20 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
056	0874_SW131_231011		11/10/2023 01:50 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
057	0874_SD131_231011		11/10/2023 01:53 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
058	0874_SW126_231011		11/10/2023 02:07 PM	WATER	ALS: 2 Non ALS: 0	No	X			
059	0874_SD126_231011		11/10/2023 02:07 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
060	0874_SD125_231011		11/10/2023 03:04 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
061	0874_SD106_231011		11/10/2023 03:40 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
062	0874_SW106_231011		11/10/2023 03:41 PM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
063	0874_SW209_231011		11/10/2023 04:06 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_SD209_231011		11/10/2023 04:08 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
065	0874_QC304_231011		11/10/2023 04:16 PM	WATER	ALS: 2 Non ALS: 0	No	X			
066	0874_SW210_231012		12/10/2023 09:26 AM	WATER	ALS: 2 Non ALS: 0	No	X			
067	0874_SD210_231012		12/10/2023 09:27 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
068	0874_SW111_231012		12/10/2023 09:55 AM	WATER	ALS: 2 Non ALS: 0	No	X			
069	0874_SD111_231012		12/10/2023 09:55 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
070	0874_SW110_231012		12/10/2023 10:14 AM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
071	0874_SD110_231012		12/10/2023 10:15 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
072	0874_SW107_231012		12/10/2023 10:40 AM	WATER	ALS: 2 Non ALS: 0	No	X			
073	0874_SD107_231012		12/10/2023 10:40 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
074	0874_SW108_231012		12/10/2023 11:00 AM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
075	0874_SD108_231012		12/10/2023 11:02 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
076	0874_SW208_231012		12/10/2023 11:14 AM	WATER	ALS: 2 Non ALS: 0	No	X			
077	0874_SD208_231012		12/10/2023 11:14 AM	SOIL	ALS: 1 Non ALS: 0	No		X		



CHAIN OF CUSTODY

DOC#: 58433

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 10 Days

Biohazard info:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU001
7**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
078	0874_SW109_231012		12/10/2023 11:28 AM	WATER	ALS: 2 Non ALS: 0	No	X			
079	0874_QC109_231012		12/10/2023 11:30 AM	WATER	ALS: 2 Non ALS: 0	No	X			
080	0874_SD109_231012		12/10/2023 11:33 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
081	0874_QC110_231012		12/10/2023 11:34 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
082	0874_SW116_231012		12/10/2023 11:46 AM	WATER	ALS: 2 Non ALS: 0	No	X			
083	0874_SD116_231012		12/10/2023 11:47 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
084	0874_MW267_231013		13/10/2023 09:21 AM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 10 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
085	0874_QC501_231013		13/10/2023 02:16 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW201_231009	HDPE (no PTFE)	20 mL	00350822007506	Grey	No	
001	0874_SW201_231009	HDPE (no PTFE)	20 mL	00350822007487	Grey	No	
002	0874_SW129_231009	HDPE (no PTFE)	20 mL	00350822007611	Grey	No	
002	0874_SW129_231009	HDPE (no PTFE)	20 mL	00350822007735	Grey	No	
003	0874_SD201_231009	HDPE Soil Jar	200 mL	00621122094275	Grey	No	
004	0874_SD129_231009	HDPE Soil Jar	200 mL	00621122094284	Grey	No	
005	0874_SD127_231009	HDPE Soil Jar	200 mL	00620322097866	Grey	No	
006	0874_SW127_231009	HDPE (no PTFE)	20 mL	00350822007518	Grey	No	
006	0874_SW127_231009	HDPE (no PTFE)	20 mL	00350822007469	Grey	No	
007	0874_QC102_231009	HDPE Soil Jar	200 mL	00621122094260	Grey	No	
008	0874_QC103_231009	HDPE (no PTFE)	20 mL	00350822007728	Grey	No	
008	0874_QC103_231009	HDPE (no PTFE)	20 mL	00350822007515	Grey	No	
009	0874_SD120_231009	HDPE Soil Jar	200 mL	00620322097855	Grey	No	
010	0874_SW017_231009	HDPE (no PTFE)	20 mL	00350822007536	Grey	No	
010	0874_SW017_231009	HDPE (no PTFE)	20 mL	00350822007477	Grey	No	
010	0874_SW017_231009	HDPE (no PTFE)	20 mL	00350822007714	Grey	No	
010	0874_SW017_231009	HDPE (no PTFE)	20 mL	00350822007442	Grey	No	
011	0874_SD017_231009	HDPE Soil Jar	200 mL	00621122094337	Grey	No	
012	0874_SD021_231009	HDPE Soil Jar	200 mL	00621122094291	Grey	No	
013	0874_SW021_231009	HDPE (no PTFE)	20 mL	00350822007489	Grey	No	
013	0874_SW021_231009	HDPE (no PTFE)	20 mL	00350822007521	Grey	No	
014	0874_SD119_231009	HDPE Soil Jar	200 mL	00621122094306	Grey	No	
015	0874_SW119_231009	HDPE (no PTFE)	20 mL	00350822007558	Grey	No	
015	0874_SW119_231009	HDPE (no PTFE)	20 mL	00350822007672	Grey	No	
016	0874_SD113_231009	HDPE Soil Jar	200 mL	00621122094355	Grey	No	
017	0873_SW113_231009	HDPE (no PTFE)	20 mL	00350822007712	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

017	0873_SW113_231009	HDPE (no PTFE)	20 mL	00350822007476	Grey	No	
018	0874_SW117_231009	HDPE (no PTFE)	20 mL	00350822007612	Grey	No	
018	0874_SW117_231009	HDPE (no PTFE)	20 mL	00350822007724	Grey	No	
018	0874_SW117_231009	HDPE (no PTFE)	20 mL	00350822007443	Grey	No	
018	0874_SW117_231009	HDPE (no PTFE)	20 mL	00350822007627	Grey	No	
019	0874_SD117_231009	HDPE Soil Jar	200 mL	00621122094345	Grey	No	
020	0874_SD118_231009	HDPE Soil Jar	200 mL	00621122094249	Grey	No	
021	0874_SW118_231009	HDPE (no PTFE)	20 mL	00350822007511	Grey	No	
021	0874_SW118_231009	HDPE (no PTFE)	20 mL	00350822007467	Grey	No	
022	0874_SD114_231009	HDPE Soil Jar	200 mL	00621122094253	Grey	No	
023	0874_QC104_231009	HDPE Soil Jar	200 mL	00620322097840	Grey	No	
024	0884_QC302_231009	HDPE (no PTFE)	20 mL	00350822007461	Grey	No	
024	0884_QC302_231009	HDPE (no PTFE)	20 mL	00350822007650	Grey	No	
025	0874_MW205_231010	HDPE (no PTFE)	20 mL	00350822007573	Grey	No	
025	0874_MW205_231010	HDPE (no PTFE)	20 mL	00350822007579	Grey	No	
025	0874_MW205_231010	HDPE (no PTFE)	20 mL	00350822007519	Grey	No	
025	0874_MW205_231010	HDPE (no PTFE)	20 mL	00350822007678	Grey	No	
026	0874_MW206_231010	HDPE (no PTFE)	20 mL	00350822007664	Grey	No	
026	0874_MW206_231010	HDPE (no PTFE)	20 mL	00350822007466	Grey	No	
027	0874_QC105_231010	HDPE (no PTFE)	20 mL	00350822007549	Grey	No	
027	0874_QC105_231010	HDPE (no PTFE)	20 mL	00350822007716	Grey	No	
028	0874_MW212_231010	HDPE (no PTFE)	20 mL	00350822007632	Grey	No	
028	0874_MW212_231010	HDPE (no PTFE)	20 mL	00350822007697	Grey	No	
029	0874_MW214_231010	HDPE (no PTFE)	20 mL	00350822007471	Grey	No	
029	0874_MW214_231010	HDPE (no PTFE)	20 mL	00350822007484	Grey	No	
030	0874_MW264_231010	HDPE (no PTFE)	20 mL	00350822007479	Grey	No	
030	0874_MW264_231010	HDPE (no PTFE)	20 mL	00350822007462	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

030	0874_MW264_231010	HDPE (no PTFE)	20 mL	00350822007691	Grey	No	
030	0874_MW264_231010	HDPE (no PTFE)	20 mL	00350822007505	Grey	No	
031	0874_MW216_231010	HDPE (no PTFE)	20 mL	00350822007547	Grey	No	
031	0874_MW216_231010	HDPE (no PTFE)	20 mL	00350822007512	Grey	No	
032	0874_MW217_231010	HDPE (no PTFE)	20 mL	00350822007707	Grey	No	
032	0874_MW217_231010	HDPE (no PTFE)	20 mL	00350822007711	Grey	No	
033	0874_QC106_231010	HDPE (no PTFE)	20 mL	00350822007470	Grey	No	
033	0874_QC106_231010	HDPE (no PTFE)	20 mL	00350822007496	Grey	No	
034	0874_QC302_231010	HDPE (no PTFE)	20 mL	00350822007517	Grey	No	
034	0874_QC302_231010	HDPE (no PTFE)	20 mL	00350822007504	Grey	No	
035	0874_MW218_231010	HDPE (no PTFE)	20 mL	00350822007583	Grey	No	
035	0874_MW218_231010	HDPE (no PTFE)	20 mL	00350822007458	Grey	No	
036	0874_MW212_231010	HDPE (no PTFE)	20 mL	00350822007556	Grey	No	
036	0874_MW212_231010	HDPE (no PTFE)	20 mL	00350822007486	Grey	No	
037	0874_MW225_231010	HDPE (no PTFE)	20 mL	00350822007488	Grey	No	
037	0874_MW225_231010	HDPE (no PTFE)	20 mL	00350822007453	Grey	No	
038	0874_SW112_231011	HDPE (no PTFE)	20 mL	00350822075502	Grey	No	
038	0874_SW112_231011	HDPE (no PTFE)	20 mL	00350822038388	Grey	No	
039	0874_SD112_231011	HDPE Soil Jar	200 mL	00621122094251	Grey	No	
040	0874_SW014_231011	HDPE (no PTFE)	20 mL	00350822007668	Grey	No	
040	0874_SW014_231011	HDPE (no PTFE)	20 mL	00350822007491	Grey	No	
041	0874_SD014_231011	HDPE Soil Jar	200 mL	00621122094297	Grey	No	
042	0874_SD121_231011	HDPE Soil Jar	200 mL	00620322097935	Grey	No	
043	0874_SD010_231011	HDPE Soil Jar	200 mL	00621122094335	Grey	No	
044	0874_SW010_231011	HDPE (no PTFE)	20 mL	00350822007507	Grey	No	
044	0874_SW010_231011	HDPE (no PTFE)	20 mL	00350822007429	Grey	No	
044	0874_SW010_231011	HDPE (no PTFE)	20 mL	00350822007468	Grey	No	



CHAIN OF CUSTODY

COC#: 58433

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 10 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

044	0874_SW010_231011	HDPE (no PTFE)	20 mL	00350822007581	Grey	No	
045	0874_SD132_231011	HDPE Soil Jar	200 mL	00621122094327	Grey	No	
046	0874_SW132_231011	HDPE (no PTFE)	20 mL	00350822074954	Grey	No	
046	0874_SW132_231011	HDPE (no PTFE)	20 mL	00350822074780	Grey	No	
047	0874_SD001_231011	HDPE Soil Jar	200 mL	00621122094341	Grey	No	
048	0874_SW001_231011	HDPE (no PTFE)	20 mL	00350822007483	Grey	No	
048	0874_SW001_231011	HDPE (no PTFE)	20 mL	00350822007459	Grey	No	
049	0874_SD123_231011	HDPE Soil Jar	200 mL	00621122094346	Grey	No	
050	0874_QC107_231011	HDPE Soil Jar	200 mL	00621019120167	Grey	No	
051	0874_SW123_231011	HDPE (no PTFE)	20 mL	00350822074839	Grey	No	
051	0874_SW123_231011	HDPE (no PTFE)	20 mL	00350822074807	Grey	No	
052	0874_QC108_231011	HDPE (no PTFE)	20 mL	00350822074959	Grey	No	
052	0874_QC108_231011	HDPE (no PTFE)	20 mL	00350822075060	Grey	No	
053	0874_SD102_231011	HDPE Soil Jar	200 mL	00621122094325	Grey	No	
054	0874_SD013_231011	HDPE Soil Jar	200 mL	00621122094278	Grey	No	
055	0874_SD016_231011	HDPE Soil Jar	200 mL	00621122094322	Grey	No	
056	0874_SW131_231011	HDPE (no PTFE)	20 mL	00350822075063	Grey	No	
056	0874_SW131_231011	HDPE (no PTFE)	20 mL	00350822074909	Grey	No	
057	0874_SD131_231011	HDPE Soil Jar	200 mL	00621122094353	Grey	No	
058	0874_SW126_231011	HDPE (no PTFE)	20 mL	00350822074980	Grey	No	
058	0874_SW126_231011	HDPE (no PTFE)	20 mL	00350822074957	Grey	No	
059	0874_SD126_231011	HDPE Soil Jar	200 mL	00621122094266	Grey	No	
060	0874_SD125_231011	HDPE Soil Jar	200 mL	00620322097922	Grey	No	
061	0874_SD106_231011	HDPE Soil Jar	200 mL	00621122094286	Grey	No	
062	0874_SW106_231011	HDPE (no PTFE)	20 mL	00350822015070	Grey	No	
062	0874_SW106_231011	HDPE (no PTFE)	20 mL	00350822074442	Grey	No	
062	0874_SW106_231011	HDPE (no PTFE)	20 mL	00350822075007	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

062	0874_SW106_231011	HDPE (no PTFE)	20 mL	00350822075068	Grey	No
063	0874_SW209_231011	HDPE (no PTFE)	20 mL	00350822074792	Grey	No
063	0874_SW209_231011	HDPE (no PTFE)	20 mL	00350822075035	Grey	No
064	0874_SD209_231011	HDPE Soil Jar	200 mL	00621122069891	Grey	No
065	0874_QC304_231011	HDPE (no PTFE)	20 mL	00350821031710	Grey	No
065	0874_QC304_231011	HDPE (no PTFE)	20 mL	00350821031202	Grey	No
066	0874_SW210_231012	HDPE (no PTFE)	20 mL	00350822030604	Grey	No
066	0874_SW210_231012	HDPE (no PTFE)	20 mL	00350822030561	Grey	No
067	0874_SD210_231012	HDPE Soil Jar	200 mL	00621122069854	Grey	No
068	0874_SW111_231012	HDPE (no PTFE)	20 mL	00350822007720	Grey	No
068	0874_SW111_231012	HDPE (no PTFE)	20 mL	00350822007706	Grey	No
069	0874_SD111_231012	HDPE Soil Jar	200 mL	00621122069926	Grey	No
070	0874_SW110_231012	HDPE (no PTFE)	20 mL	00350822015137	Grey	No
070	0874_SW110_231012	HDPE (no PTFE)	20 mL	00350822074448	Grey	No
071	0874_SD110_231012	HDPE Soil Jar	200 mL	00621122069935	Grey	No
072	0874_SW107_231012	HDPE (no PTFE)	20 mL	00350822030612	Grey	No
072	0874_SW107_231012	HDPE (no PTFE)	20 mL	00350822030725	Grey	No
073	0874_SD107_231012	HDPE Soil Jar	200 mL	00620322097921	Grey	No
074	0874_SW108_231012	HDPE (no PTFE)	20 mL	00350822030550	Grey	No
074	0874_SW108_231012	HDPE (no PTFE)	20 mL	00350822030743	Grey	No
074	0874_SW108_231012	HDPE (no PTFE)	20 mL	00350822030710	Grey	No
074	0874_SW108_231012	HDPE (no PTFE)	20 mL	00350822030623	Grey	No
075	0874_SD108_231012	HDPE Soil Jar	200 mL	00621122069915	Grey	No
076	0874_SW208_231012	HDPE (no PTFE)	20 mL	00350822030740	Grey	No
076	0874_SW208_231012	HDPE (no PTFE)	20 mL	00350822030648	Grey	No
077	0874_SD208_231012	HDPE Soil Jar	200 mL	00621122069924	Grey	No
078	0874_SW109_231012	HDPE (no PTFE)	20 mL	00350822030759	Grey	No

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 10 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

078	0874_SW109_231012	HDPE (no PTFE)	20 mL	00350822030634	Grey	No	
079	0874_QC109_231012	HDPE (no PTFE)	20 mL	00350822030771	Grey	No	
079	0874_QC109_231012	HDPE (no PTFE)	20 mL	00350822030657	Grey	No	
080	0874_SD109_231012	HDPE Soil Jar	200 mL	00621122069801	Grey	No	
081	0874_QC110_231012	HDPE Soil Jar	200 mL	00621122069931	Grey	No	
082	0874_SW116_231012	HDPE (no PTFE)	20 mL	00350822030697	Grey	No	
082	0874_SW116_231012	HDPE (no PTFE)	20 mL	00350822030754	Grey	No	
083	0874_SD116_231012	HDPE Soil Jar	200 mL	00621122069898	Grey	No	
084	0874_MW267_231013	HDPE (no PTFE)	20 mL	00350522063720	Grey	No	
084	0874_MW267_231013	HDPE (no PTFE)	20 mL	00350522063760	Grey	No	
085	0874_QC501_231013	HDPE (no PTFE)	20 mL	00350522063898	Grey	No	
085	0874_QC501_231013	HDPE (no PTFE)	20 mL	00350522063712	Grey	No	

Total Bottle Count: ALS: 146, Non ALS: 0



ALS Compass

SAMPLING *Intelligence*



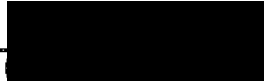
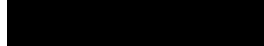
Environmental Division
Townsville
Work Order Reference
ET2304991



Telephone : + 61 7 4773 0001

Custody Document for Submissions via ALS Compass App

Project: 60612487-2.1 Client: AECOM

Project Manager: 
Phone: 

ALS Compass COE Reference: 58363 # Samples: 83

Sampler: 
Phone: 

Turnaround Requirements: Standard Urgent

Special Instructions:

Extra Volume:
MW142, MW112, MW300, MW232, MW122, MW246, MW005,
MW109, MW243, MW248, MW255

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?		°C	

Custody:

Relinquished by:



Date / Time:

13/10/23 4:15pm

Received by:



Date / Time:

13/10/23 4:15pm

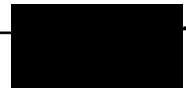
Relinquished by:



Date / Time:

13/10/23

Received by:



Date / Time:

17/10/23

8:00



CHAIN OF CUSTODY

COC#: 58363 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP_23
SITE: QLD_0874
ORDER NO: 60612487_2.1
PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comments:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW118_231009		09/10/2023 08:20 AM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0874_MW140_231009		09/10/2023 08:37 AM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0874_MW142_231009		09/10/2023 09:06 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
004	0874_MW250_231009		09/10/2023 09:28 AM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0874_MW251_231009		09/10/2023 09:44 AM	WATER	ALS: 2 Non ALS: 0	No	X		
006	0874_QC150_231009		09/10/2023 09:45 AM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0874_MW112_231009		09/10/2023 03:28 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0874_MW057_231009		09/10/2023 04:11 PM	WATER	ALS: 2 Non ALS: 0	No	X		
009	0874_QC350_231009		09/10/2023 04:16 PM	WATER	ALS: 2 Non ALS: 0	No	X		
010	0874_MW300_231010		10/10/2023 09:07 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
011	0874_MW002_231010		10/10/2023 10:03 AM	WATER	ALS: 2 Non ALS: 0	No	X		
012	0874_MW004_231010		10/10/2023 10:05 AM	WATER	ALS: 2 Non ALS: 0	No	X		
013	0874_MW241_231010		10/10/2023 10:05 AM	WATER	ALS: 2 Non ALS: 0	No	X		
014	0874_MW135_231010		10/10/2023 10:12 AM	WATER	ALS: 2 Non ALS: 0	No	X		



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001
7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0874_MW056_231010		10/10/2023 10:26 AM	WATER	ALS: 2 Non ALS: 0	No	X		
016	0874_MW114_231010		10/10/2023 10:36 AM	WATER	ALS: 2 Non ALS: 0	No	X		
017	0874_MW009_231010		10/10/2023 11:11 AM	WATER	ALS: 2 Non ALS: 0	No	X		
018	0874_QC151_231010		10/10/2023 11:12 AM	WATER	ALS: 2 Non ALS: 0	No	X		
019	0874_MW247_231010		10/10/2023 11:13 AM	WATER	ALS: 2 Non ALS: 0	No	X		
020	0874_MW232_231010		10/10/2023 11:28 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
021	0874_MW063_231010		10/10/2023 11:42 AM	WATER	ALS: 2 Non ALS: 0	No	X		



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0874_MW120_231010		10/10/2023 12:04 PM	WATER	ALS: 2 Non ALS: 0	No	X		
023	0874_MW026_231010		10/10/2023 12:15 PM	WATER	ALS: 2 Non ALS: 0	No	X		
024	0874_MW034_231010		10/10/2023 12:32 PM	WATER	ALS: 2 Non ALS: 0	No	X		
025	0874_MW033_231010		10/10/2023 12:40 PM	WATER	ALS: 2 Non ALS: 0	No	X		
026	0874_MW046_231010		10/10/2023 01:50 PM	WATER	ALS: 2 Non ALS: 0	No	X		
027	0874_MW055_231010		10/10/2023 02:03 PM	WATER	ALS: 2 Non ALS: 0	No	X		
028	0874_MW136_231010		10/10/2023 02:33 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0874_QC351_231010		10/10/2023 03:11 PM	WATER	ALS: 2 Non ALS: 0	No	X		
030	0874_QC152_231010		10/10/2023 03:15 PM	WATER	ALS: 2 Non ALS: 0	No	X		
031	0874_MW242_231011		11/10/2023 09:56 AM	WATER	ALS: 2 Non ALS: 0	No	X		
032	0874_MW122_231011		11/10/2023 10:17 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
033	0874_MW246_231011		11/10/2023 10:44 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
034	0874_MW245_231011		11/10/2023 11:09 AM	WATER	ALS: 2 Non ALS: 0	No	X		
035	0874_MW081_231011		11/10/2023 11:22 AM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
036	0874_QC153_231011		11/10/2023 11:23 AM	WATER	ALS: 2 Non ALS: 0	No	X		
037	0874_MW090_231011		11/10/2023 11:43 AM	WATER	ALS: 2 Non ALS: 0	No	X		
038	0874_MW005_231011		11/10/2023 11:58 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
039	0874_MW054_231011		11/10/2023 12:21 PM	WATER	ALS: 2 Non ALS: 0	No	X		
040	0874_MW109_231011		11/10/2023 12:35 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
041	0874_MW110_231011		11/10/2023 12:53 PM	WATER	ALS: 2 Non ALS: 0	No	X		
042	0874_MW015_231011		11/10/2023 01:10 PM	WATER	ALS: 2 Non ALS: 0	No	X		



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
043	0874_MW021_231011		11/10/2023 01:23 PM	WATER	ALS: 2 Non ALS: 0	No	X		
044	0874_MW244_231011		11/10/2023 01:48 PM	WATER	ALS: 2 Non ALS: 0	No	X		
045	0874_MW243_231011		11/10/2023 02:05 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
046	0874_MW265_231011		11/10/2023 02:21 PM	WATER	ALS: 2 Non ALS: 0	No	X		
047	0874_QC154_231011		11/10/2023 02:22 PM	WATER	ALS: 2 Non ALS: 0	No	X		
048	0874_MW138_231011		11/10/2023 03:09 PM	WATER	ALS: 2 Non ALS: 0	No	X		
049	0874_MW139_231011		11/10/2023 03:17 PM	WATER	ALS: 2 Non ALS: 0	No	X		



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874 PFASOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	
050	0874_MW043_231011		11/10/2023 03:44 PM	WATER	ALS: 2 Non ALS: 0	No	X		
051	0874_MW125_231011		11/10/2023 04:00 PM	WATER	ALS: 2 Non ALS: 0	No	X		
052	0874_QC352_231011		11/10/2023 04:11 PM	WATER	ALS: 2 Non ALS: 0	No	X		
053	0874_MW038_231012		12/10/2023 09:45 AM	WATER	ALS: 2 Non ALS: 0	No	X		
054	0874_MW248_231012		12/10/2023 10:21 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
055	0874_MW061_231012		12/10/2023 10:42 AM	WATER	ALS: 2 Non ALS: 0	No	X		
056	0874_QC155_231012		12/10/2023 10:48 AM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
057	0874_MW224_231012		12/10/2023 11:04 AM	WATER	ALS: 2 Non ALS: 0	No	X		
058	0874_MW234_231012		12/10/2023 11:58 AM	WATER	ALS: 2 Non ALS: 0	No	X		
059	0874_MW255_231012		12/10/2023 12:15 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
060	0874_MW470_231012		12/10/2023 01:07 PM	WATER	ALS: 2 Non ALS: 0	No	X		
061	0874_MW222_231012		12/10/2023 01:59 PM	WATER	ALS: 2 Non ALS: 0	No	X		
062	0874_MW227_231012		12/10/2023 02:21 PM	WATER	ALS: 2 Non ALS: 0	No	X		
063	0874_MW229_231012		12/10/2023 02:52 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_QC156_231012		12/10/2023 02:55 PM	WATER	ALS: 2 Non ALS: 0	No	X		
065	0874_QC353_231012		12/10/2023 03:15 PM	WATER	ALS: 2 Non ALS: 0	No	X		
066	0874_MW207_231012		12/10/2023 03:47 PM	WATER	ALS: 2 Non ALS: 0	No	X		
067	0874_MW208_231012		12/10/2023 03:48 PM	WATER	ALS: 2 Non ALS: 0	No	X		
068	0874_MW471_231012		12/10/2023 03:49 PM	WATER	ALS: 2 Non ALS: 0	No	X		
069	0874_MW211_231012		12/10/2023 03:50 PM	WATER	ALS: 2 Non ALS: 0	No	X		
070	0874_MW301_231012		12/10/2023 03:51 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS QOC#: 58363 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
071	0874_MW467_231012		12/10/2023 03:52 PM	WATER	ALS: 2 Non ALS: 0	No	X		
072	0874_QC111_231012		12/10/2023 03:53 PM	WATER	ALS: 2 Non ALS: 0	No	X		
073	0874_QC305_231012		12/10/2023 03:54 PM	WATER	ALS: 2 Non ALS: 0	No	X		
074	0874_MW219_231013		13/10/2023 12:23 PM	WATER	ALS: 2 Non ALS: 0	No	X		
075	0874_MW233_231013		13/10/2023 12:24 PM	WATER	ALS: 2 Non ALS: 0	No	X		
076	0874_MW213_231013		13/10/2023 12:25 PM	WATER	ALS: 2 Non ALS: 0	No	X		
077	0874_MW253_231013		13/10/2023 12:26 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
078	0874_MW215_231013		13/10/2023 12:27 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
079	0874_MW252_231013		13/10/2023 12:28 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
080	0874_MW263_231013	Extra volume	13/10/2023 12:29 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
081	0874_QC112_231013		13/10/2023 12:30 PM	WATER	ALS: 2 Non ALS: 0	Yes			
082	0874_QC306_231013		13/10/2023 12:31 PM	WATER	ALS: 2 Non ALS: 0	No	X		
083	0874_QC550_231013		13/10/2023 02:19 PM	WATER	ALS: 2 Non ALS: 0	No	X		



CHAIN OF CUSTODY

GOC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW118_231009	HDPE (no PTFE)	20 mL	00350822007649	Grey	No	
001	0874_MW118_231009	HDPE (no PTFE)	20 mL	00350822007665	Grey	No	
002	0874_MW140_231009	HDPE (no PTFE)	20 mL	00350822007452	Grey	No	
002	0874_MW140_231009	HDPE (no PTFE)	20 mL	00350822007596	Grey	No	
003	0874_MW142_231009	HDPE (no PTFE)	20 mL	00350822007566	Grey	No	
003	0874_MW142_231009	HDPE (no PTFE)	20 mL	00350822007661	Grey	No	
003	0874_MW142_231009	HDPE (no PTFE)	20 mL	00350822007560	Grey	No	
003	0874_MW142_231009	HDPE (no PTFE)	20 mL	00350822007474	Grey	No	
004	0874_MW250_231009	HDPE (no PTFE)	20 mL	00350822007493	Grey	No	
004	0874_MW250_231009	HDPE (no PTFE)	20 mL	00350822007529	Grey	No	
005	0874_MW251_231009	HDPE (no PTFE)	20 mL	00350822007457	Grey	No	
005	0874_MW251_231009	HDPE (no PTFE)	20 mL	00350822007694	Grey	No	
006	0874_QC150_231009	HDPE (no PTFE)	20 mL	00350822007607	Grey	No	
006	0874_QC150_231009	HDPE (no PTFE)	20 mL	00350822007501	Grey	No	
007	0874_MW112_231009	HDPE (no PTFE)	20 mL	00350822074865	Grey	No	
007	0874_MW112_231009	HDPE (no PTFE)	20 mL	00350822074994	Grey	No	
007	0874_MW112_231009	HDPE (no PTFE)	20 mL	00350822075029	Grey	No	
007	0874_MW112_231009	HDPE (no PTFE)	20 mL	00350822074905	Grey	No	
008	0874_MW057_231009	HDPE (no PTFE)	20 mL	00350822074923	Grey	No	
008	0874_MW057_231009	HDPE (no PTFE)	20 mL	00350822075000	Grey	No	
009	0874_QC350_231009	HDPE (no PTFE)	20 mL	00350822074837	Grey	No	
009	0874_QC350_231009	HDPE (no PTFE)	20 mL	00350822074894	Grey	No	
010	0874_MW300_231010	HDPE (no PTFE)	20 mL	00350822074925	Grey	No	
010	0874_MW300_231010	HDPE (no PTFE)	20 mL	00350822074973	Grey	No	
010	0874_MW300_231010	HDPE (no PTFE)	20 mL	00350822074761	Grey	No	
010	0874_MW300_231010	HDPE (no PTFE)	20 mL	00350822075023	Grey	No	



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

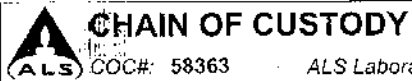
SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

011	0874_MW002_231010	HDPE (no PTFE)	20 mL	00350822074821	Grey	No	
011	0874_MW002_231010	HDPE (no PTFE)	20 mL	00350822074900	Grey	No	
012	0874_MW004_231010	HDPE (no PTFE)	20 mL	00350822075041	Grey	No	
012	0874_MW004_231010	HDPE (no PTFE)	20 mL	00350822075061	Grey	No	
013	0874_MW241_231010	HDPE (no PTFE)	20 mL	00350822075072	Grey	No	
013	0874_MW241_231010	HDPE (no PTFE)	20 mL	00350822075042	Grey	No	
014	0874_MW135_231010	HDPE (no PTFE)	20 mL	00350822074888	Grey	No	
014	0874_MW135_231010	HDPE (no PTFE)	20 mL	00350822075043	Grey	No	
015	0874_MW056_231010	HDPE (no PTFE)	20 mL	00350822075014	Grey	No	
015	0874_MW056_231010	HDPE (no PTFE)	20 mL	00350822075032	Grey	No	
016	0874_MW114_231010	HDPE (no PTFE)	20 mL	00350822074940	Grey	No	
016	0874_MW114_231010	HDPE (no PTFE)	20 mL	00350822075031	Grey	No	
017	0874_MW009_231010	HDPE (no PTFE)	20 mL	00350822074999	Grey	No	
017	0874_MW009_231010	HDPE (no PTFE)	20 mL	00350822074961	Grey	No	
018	0874_QC151_231010	HDPE (no PTFE)	20 mL	00350822074996	Grey	No	
018	0874_QC151_231010	HDPE (no PTFE)	20 mL	00350822074787	Grey	No	
019	0874_MW247_231010	HDPE (no PTFE)	20 mL	00350822074799	Grey	No	
019	0874_MW247_231010	HDPE (no PTFE)	20 mL	00350822074950	Grey	No	
020	0874_MW232_231010	HDPE (no PTFE)	20 mL	00350822074920	Grey	No	
020	0874_MW232_231010	HDPE (no PTFE)	20 mL	00350822074803	Grey	No	
020	0874_MW232_231010	HDPE (no PTFE)	20 mL	00350822074789	Grey	No	
020	0874_MW232_231010	HDPE (no PTFE)	20 mL	00350822074930	Grey	No	
021	0874_MW063_231010	HDPE (no PTFE)	20 mL	00350822075022	Grey	No	
021	0874_MW063_231010	HDPE (no PTFE)	20 mL	00350822075037	Grey	No	
022	0874_MW120_231010	HDPE (no PTFE)	20 mL	00350822074785	Grey	No	
022	0874_MW120_231010	HDPE (no PTFE)	20 mL	00350822074790	Grey	No	
023	0874_MW026_231010	HDPE (no PTFE)	20 mL	00350822074883	Grey	No	



COC#: 58363 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

023	0874_MW026_231010	HDPE (no PTFE)	20 mL	00350822075059	Grey	No	
024	0874_MW034_231010	HDPE (no PTFE)	20 mL	00350822074983	Grey	No	
024	0874_MW034_231010	HDPE (no PTFE)	20 mL	00350822074969	Grey	No	
025	0874_MW033_231010	HDPE (no PTFE)	20 mL	00350822075056	Grey	No	
025	0874_MW033_231010	HDPE (no PTFE)	20 mL	00350822074810	Grey	No	
026	0874_MW046_231010	HDPE (no PTFE)	20 mL	00350822074907	Grey	No	
026	0874_MW046_231010	HDPE (no PTFE)	20 mL	00350822074793	Grey	No	
027	0874_MW055_231010	HDPE (no PTFE)	20 mL	00350822074896	Grey	No	
027	0874_MW055_231010	HDPE (no PTFE)	20 mL	00350822075017	Grey	No	
028	0874_MW136_231010	HDPE (no PTFE)	20 mL	00350822075045	Grey	No	
028	0874_MW136_231010	HDPE (no PTFE)	20 mL	00350822075046	Grey	No	
029	0874_QC351_231010	HDPE (no PTFE)	20 mL	00350822074853	Grey	No	
029	0874_QC351_231010	HDPE (no PTFE)	20 mL	00350822074995	Grey	No	
030	0874_QC152_231010	HDPE (no PTFE)	20 mL	00350822074882	Grey	No	
030	0874_QC152_231010	HDPE (no PTFE)	20 mL	00350822074919	Grey	No	
031	0874_MW242_231011	HDPE (no PTFE)	20 mL	00350822007502	Grey	No	
031	0874_MW242_231011	HDPE (no PTFE)	20 mL	00350822007539	Grey	No	
032	0874_MW122_231011	HDPE (no PTFE)	20 mL	00350822007551	Grey	No	
032	0874_MW122_231011	HDPE (no PTFE)	20 mL	00350822007704	Grey	No	
032	0874_MW122_231011	HDPE (no PTFE)	20 mL	00350822007494	Grey	No	
032	0874_MW122_231011	HDPE (no PTFE)	20 mL	00350822007513	Grey	No	
033	0874_MW246_231011	HDPE (no PTFE)	20 mL	00350822074984	Grey	No	
033	0874_MW246_231011	HDPE (no PTFE)	20 mL	00350822075005	Grey	No	
033	0874_MW246_231011	HDPE (no PTFE)	20 mL	00350822074832	Grey	No	
033	0874_MW246_231011	HDPE (no PTFE)	20 mL	00350822074822	Grey	No	
034	0874_MW245_231011	HDPE (no PTFE)	20 mL	00350822007610	Grey	No	
034	0874_MW245_231011	HDPE (no PTFE)	20 mL	00350822007606	Grey	No	



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

035	0874_MW081_231011	HDPE (no PTFE)	20 mL	00350822007481	Grey	No	
035	0874_MW081_231011	HDPE (no PTFE)	20 mL	00350822007656	Grey	No	
036	0874_QC153_231011	HDPE (no PTFE)	20 mL	00350822074972	Grey	No	
036	0874_QC153_231011	HDPE (no PTFE)	20 mL	00350822075034	Grey	No	
037	0874_MW090_231011	HDPE (no PTFE)	20 mL	00350522063958	Grey	No	
037	0874_MW090_231011	HDPE (no PTFE)	20 mL	00350522063897	Grey	No	
038	0874_MW005_231011	HDPE (no PTFE)	20 mL	00350522063913	Grey	No	
038	0874_MW005_231011	HDPE (no PTFE)	20 mL	00350522063754	Grey	No	
038	0874_MW005_231011	HDPE (no PTFE)	20 mL	00350522063756	Grey	No	
038	0874_MW005_231011	HDPE (no PTFE)	20 mL	00350522063997	Grey	No	
039	0874_MW054_231011	HDPE (no PTFE)	20 mL	00350522063878	Grey	No	
039	0874_MW054_231011	HDPE (no PTFE)	20 mL	00350522063728	Grey	No	
040	0874_MW109_231011	HDPE (no PTFE)	20 mL	00350522063807	Grey	No	
040	0874_MW109_231011	HDPE (no PTFE)	20 mL	00350522063992	Grey	No	
040	0874_MW109_231011	HDPE (no PTFE)	20 mL	00350522063930	Grey	No	
040	0874_MW109_231011	HDPE (no PTFE)	20 mL	00350522063761	Grey	No	
041	0874_MW110_231011	HDPE (no PTFE)	20 mL	00350522063844	Grey	No	
041	0874_MW110_231011	HDPE (no PTFE)	20 mL	00350522063834	Grey	No	
042	0874_MW015_231011	HDPE (no PTFE)	20 mL	00350522063833	Grey	No	
042	0874_MW015_231011	HDPE (no PTFE)	20 mL	00350522063983	Grey	No	
043	0874_MW021_231011	HDPE (no PTFE)	20 mL	00350522063729	Grey	No	
043	0874_MW021_231011	HDPE (no PTFE)	20 mL	00350522063828	Grey	No	
044	0874_MW244_231011	HDPE (no PTFE)	20 mL	00350522063758	Grey	No	
044	0874_MW244_231011	HDPE (no PTFE)	20 mL	00350522063994	Grey	No	
045	0874_MW243_231011	HDPE (no PTFE)	20 mL	00350522063865	Grey	No	
045	0874_MW243_231011	HDPE (no PTFE)	20 mL	00350522063790	Grey	No	
045	0874_MW243_231011	HDPE (no PTFE)	20 mL	00350522063998	Grey	No	



CHAIN OF CUSTODY

COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

045	0874_MW243_231011	HDPE (no PTFE)	20 mL	00350522063907	Grey	No	
046	0874_MW265_231011	HDPE (no PTFE)	20 mL	00350522063905	Grey	No	
046	0874_MW265_231011	HDPE (no PTFE)	20 mL	00350522063881	Grey	No	
047	0874_QC154_231011	HDPE (no PTFE)	20 mL	00350522063965	Grey	No	
047	0874_QC154_231011	HDPE (no PTFE)	20 mL	00350522063889	Grey	No	
048	0874_MW138_231011	HDPE (no PTFE)	20 mL	00350522063855	Grey	No	
048	0874_MW138_231011	HDPE (no PTFE)	20 mL	00350522063947	Grey	No	
049	0874_MW139_231011	HDPE (no PTFE)	20 mL	00350522063880	Grey	No	
049	0874_MW139_231011	HDPE (no PTFE)	20 mL	00350522063803	Grey	No	
050	0874_MW043_231011	HDPE (no PTFE)	20 mL	00350522063768	Grey	No	
050	0874_MW043_231011	HDPE (no PTFE)	20 mL	00350522063751	Grey	No	
051	0874_MW125_231011	HDPE (no PTFE)	20 mL	00350522063771	Grey	No	
051	0874_MW125_231011	HDPE (no PTFE)	20 mL	00350522063843	Grey	No	
052	0874_QC352_231011	HDPE (no PTFE)	20 mL	00350522063894	Grey	No	
052	0874_QC352_231011	HDPE (no PTFE)	20 mL	00350522063827	Grey	No	
053	0874_MW038_231012	HDPE (no PTFE)	20 mL	00350522063901	Grey	No	
053	0874_MW038_231012	HDPE (no PTFE)	20 mL	00350522063950	Grey	No	
054	0874_MW248_231012	HDPE (no PTFE)	20 mL	00350522063984	Grey	No	
054	0874_MW248_231012	HDPE (no PTFE)	20 mL	00350522063949	Grey	No	
054	0874_MW248_231012	HDPE (no PTFE)	20 mL	00350522063919	Grey	No	
054	0874_MW248_231012	HDPE (no PTFE)	20 mL	00350522063841	Grey	No	
055	0874_MW061_231012	HDPE (no PTFE)	20 mL	00350522063973	Grey	No	
055	0874_MW061_231012	HDPE (no PTFE)	20 mL	00350522063899	Grey	No	
056	0874_QC155_231012	HDPE (no PTFE)	20 mL	00350522063773	Grey	No	
056	0874_QC155_231012	HDPE (no PTFE)	20 mL	00350522063821	Grey	No	
057	0874_MW224_231012	HDPE (no PTFE)	20 mL	00350522063706	Grey	No	
057	0874_MW224_231012	HDPE (no PTFE)	20 mL	00350522063779	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU0017

058	0874_MW234_231012	HDPE (no PTFE)	20 mL	00350522063967	Grey	No	
058	0874_MW234_231012	HDPE (no PTFE)	20 mL	00350522063752	Grey	No	
059	0874_MW255_231012	HDPE (no PTFE)	20 mL	00350522063854	Grey	No	
059	0874_MW255_231012	HDPE (no PTFE)	20 mL	00350522063978	Grey	No	
059	0874_MW255_231012	HDPE (no PTFE)	20 mL	00350522063795	Grey	No	
059	0874_MW255_231012	HDPE (no PTFE)	20 mL	00350522063784	Grey	No	
060	0874_MW47D_231012	HDPE (no PTFE)	20 mL	00350522063872	Grey	No	
060	0874_MW47D_231012	HDPE (no PTFE)	20 mL	00350522063710	Grey	No	
061	0874_MW222_231012	HDPE (no PTFE)	20 mL	00350522063764	Grey	No	
061	0874_MW222_231012	HDPE (no PTFE)	20 mL	00350522063722	Grey	No	
062	0874_MW227_231012	HDPE (no PTFE)	20 mL	00350522063929	Grey	No	
062	0874_MW227_231012	HDPE (no PTFE)	20 mL	00350522063926	Grey	No	
063	0874_MW229_231012	HDPE (no PTFE)	20 mL	00350522063987	Grey	No	
063	0874_MW229_231012	HDPE (no PTFE)	20 mL	00350522063850	Grey	No	
064	0874_QC156_231012	HDPE (no PTFE)	20 mL	00350522063763	Grey	No	
064	0874_QC156_231012	HDPE (no PTFE)	20 mL	00350522063936	Grey	No	
065	0874_QC353_231012	HDPE (no PTFE)	20 mL	00350522063831	Grey	No	
065	0874_QC353_231012	HDPE (no PTFE)	20 mL	00350522064003	Grey	No	
066	0874_MW207_231012	HDPE (no PTFE)	20 mL	00350822030814	Grey	No	
066	0874_MW207_231012	HDPE (no PTFE)	20 mL	00350822030671	Grey	No	
067	0874_MW208_231012	HDPE (no PTFE)	20 mL	00350822030672	Grey	No	
067	0874_MW208_231012	HDPE (no PTFE)	20 mL	00350822030825	Grey	No	
068	0874_MW471_231012	HDPE (no PTFE)	20 mL	00350822030602	Grey	No	
068	0874_MW471_231012	HDPE (no PTFE)	20 mL	00350822030666	Grey	No	
069	0874_MW211_231012	HDPE (no PTFE)	20 mL	00350822030642	Grey	No	
069	0874_MW211_231012	HDPE (no PTFE)	20 mL	00350822030565	Grey	No	
070	0874_MW301_231012	HDPE (no PTFE)	20 mL	00350822030641	Grey	No	

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_23
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

070	0874_MW301_231012	HDPE (no PTFE)	20 mL	00350822030664	Grey	No	
071	0874_MW467_231012	HDPE (no PTFE)	20 mL	00350822030607	Grey	No	
071	0874_MW467_231012	HDPE (no PTFE)	20 mL	00350822030793	Grey	No	
072	0874_QC111_231012	HDPE (no PTFE)	20 mL	00350822030580	Grey	No	
072	0874_QC111_231012	HDPE (no PTFE)	20 mL	00350822030633	Grey	No	
073	0874_QC305_231012	HDPE (no PTFE)	20 mL	00350822030603	Grey	No	
073	0874_QC305_231012	HDPE (no PTFE)	20 mL	00350822030639	Grey	No	
074	0874_MW219_231013	HDPE (no PTFE)	20 mL	00350522063830	Grey	No	
074	0874_MW219_231013	HDPE (no PTFE)	20 mL	00350522063747	Grey	No	
075	0874_MW233_231013	HDPE (no PTFE)	20 mL	00350822015007	Grey	No	
075	0874_MW233_231013	HDPE (no PTFE)	20 mL	00350822015156	Grey	No	
076	0874_MW213_231013	HDPE (no PTFE)	20 mL	00350822074432	Grey	No	
076	0874_MW213_231013	HDPE (no PTFE)	20 mL	00350822015186	Grey	No	
077	0874_MW253_231013	HDPE (no PTFE)	20 mL	00350822015222	Grey	No	
077	0874_MW253_231013	HDPE (no PTFE)	20 mL	00350822015110	Grey	No	
078	0874_MW215_231013	HDPE (no PTFE)	20 mL	00350822015083	Grey	No	
078	0874_MW215_231013	HDPE (no PTFE)	20 mL	00350822074426	Grey	No	
078	0874_MW215_231013	HDPE (no PTFE)	20 mL	00350822015200	Grey	No	
078	0874_MW215_231013	HDPE (no PTFE)	20 mL	00350822015081	Grey	No	
079	0874_MW252_231013	HDPE (no PTFE)	20 mL	00350822015198	Grey	No	
079	0874_MW252_231013	HDPE (no PTFE)	20 mL	00350822015112	Grey	No	
079	0874_MW252_231013	HDPE (no PTFE)	20 mL	00350822015036	Grey	No	
079	0874_MW252_231013	HDPE (no PTFE)	20 mL	00350822015045	Grey	No	
080	0874_MW283_231013	HDPE (no PTFE)	20 mL	00350822014999	Grey	No	
080	0874_MW263_231013	HDPE (no PTFE)	20 mL	00350822030668	Grey	No	
080	0874_MW263_231013	HDPE (no PTFE)	20 mL	00350822030757	Grey	No	
080	0874_MW263_231013	HDPE (no PTFE)	20 mL	00350822074443	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 58363

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

081	0874_QC112_231013	HDPE (no PTFE)	20 mL	00350822015048	Grey	No	
081	0874_QC112_231013	HDPE (no PTFE)	20 mL	00350822015201	Grey	No	
082	0874_QC306_231013	HDPE (no PTFE)	20 mL	00350822015006	Grey	No	
082	0874_QC306_231013	HDPE (no PTFE)	20 mL	00350822015058	Grey	No	
083	0874_QC550_231013	HDPE (no PTFE)	20 mL	00350522063971	Grey	No	
083	0874_QC550_231013	HDPE (no PTFE)	20 mL	00350522063792	Grey	No	

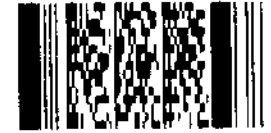
Total Bottle Count: ALS: 194, Non ALS: 0



ALS Compass
SAMPLING *Intelligence*



Environmental Division
Townsville
Work Order Reference
ET2305576



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PFASOMP Client: AECOM Project Manager: [REDACTED]
 Phone: ([REDACTED])
 ALS Compass COC Reference: 60264 # Samples: 5 Sampler: [REDACTED]
 Phone: ([REDACTED])
 Turnaround Requirements: Standard 3 DAYS Urgent _____

Special Instructions: <u>3 DAY TAT PLEASE</u>	URGENT		
	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:			
Relinquished by: <u>[REDACTED]</u>	Received by: <u>[REDACTED]</u>	Relinquished by:	Received by: <u>[REDACTED]</u>
Date / Time: <u>1649 17/11/23</u>	Date / Time: <u>17/11/23 1649</u>	Date / Time:	Date / Time: <u>21/11/23 8:00</u>

**CHAIN OF CUSTODY**

COC#: 60264

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 3 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW015_231117		17/11/2023 08:10 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
002	0874_MW021_231117		17/11/2023 08:25 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
003	0874_QC510_231117		17/11/2023 08:30 AM	WATER	ALS: 2 Non ALS: 0	No	X			
004	0874_QC300_231117		17/11/2023 08:30 AM	WATER	ALS: 2 Non ALS: 0	No	X			
005	0874_SD016_231117		17/11/2023 08:40 AM	SOIL	ALS: 1 Non ALS: 0	No		X		

**CHAIN OF CUSTODY**

COC#: 60264

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_23

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 3 Days

Biohazard info:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU001

7

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW015_231117	HDPE (no PTFE)	20 mL	00350821031469	Grey	No	
001	0874_MW015_231117	HDPE (no PTFE)	20 mL	00350821031548	Grey	No	
001	0874_MW015_231117	HDPE (no PTFE)	20 mL	00350821031519	Grey	No	
001	0874_MW015_231117	HDPE (no PTFE)	20 mL	00350821031486	Grey	No	
002	0874_MW021_231117	HDPE (no PTFE)	20 mL	00350822015185	Grey	No	
002	0874_MW021_231117	HDPE (no PTFE)	20 mL	00350822015013	Grey	No	
002	0874_MW021_231117	HDPE (no PTFE)	20 mL	00350821031665	Grey	No	
002	0874_MW021_231117	HDPE (no PTFE)	20 mL	00350821031230	Grey	No	
003	0874_QC510_231117	HDPE (no PTFE)	20 mL	00350822030788	Grey	No	
003	0874_QC510_231117	HDPE (no PTFE)	20 mL	00350822030817	Grey	No	
004	0874_QC300_231117	HDPE (no PTFE)	20 mL	00350822074795	Grey	No	
004	0874_QC300_231117	HDPE (no PTFE)	20 mL	00350822074895	Grey	No	
005	0874_SD016_231117	HDPE Soil Jar	200 mL	00621222029162	Grey	No	

Total Bottle Count: ALS: 13, Non ALS: 0

ANZ
FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM		ADDRESS: Townsville		SAMPLER: [REDACTED]		Destination Laboratory Eurofins	
PROJECT MANAGER (PM): [REDACTED]		SITE: 0874		MOBILE: 0498 566 045		PHONE: [REDACTED]	
PROJECT NUMBER & TASK CODE: 6061207.24 QLD 0874 PPM Cont. 23		P.O. NO.: 60612487.2.1		ENAS REPORT TO: [REDACTED]		ANALYSIS REQUIRED (including SURTES (note - suite codes must be listed to attract suite prices))	
RESULTS REQUIRED (Date): 10 day TAT		QUOTE NO.:		ANALYSIS REQUIRED (including SURTES (note - suite codes must be listed to attract suite prices))		ANALYSIS REQUIRED (including SURTES (note - suite codes must be listed to attract suite prices))	
FOR LABORATORY USE ONLY		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:					
COOLER SEAL (only appropriate)		Notes: e.g. Highly contaminated samples e.g. 'High PAHs expected', Extra volume for OC or trace LORs etc.					
CHECK: Yes No N/A		SAMPLER: PPM Sub suite					
SAMPLER TEMPERATURE		HOLD					
CHILLED: Yes No		HOLD					
SAMPLE INFORMATION (note: S = Soil, W = Water)				CONTAINER INFORMATION			
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	
	0874_QC200_231006	W	6/10/2023		2 x P	2	X
	0874_QC201_231006	S	6/10/2023		1 x Jar	1	X
	0874_QC202_231009	S	9/10/2023		1 x Jar	1	X
	0874_QC203_231009	W	9/10/2023		2 x P	2	X
	0874_QC204_231009	S	9/10/2023		1 x Jar	1	X
	0874_QC205_231010	W	10/10/2023		2 x P	2	X
	0874_QC206_231010	W	10/10/2023		2 x P	2	X
	0874_QC207_231011	S	11/10/2023		1 x Jar	1	X
	0874_QC208_231011	W	11/10/2023		2 x P	2	X
	0874_QC209_231012	W	12/10/2023		2 x P	2	X
	0874_QC210_231012	S	12/10/2023		1 x Jar	1	X
	0874_QC211_231012	W	12/10/2023		2 x P	2	X
	0874_QC212_231013	W	13/10/2023		2 x P	2	X
	0874_QC250_231009	W	9/10/2023		2 x P	2	X
	0874_QC251_231010	W	10/10/2023		2 x P	2	X
	0874_QC252_231010	W	10/10/2023		2 x P	2	X
	0874_QC253_231011	W	11/10/2023		2 x P	2	X
	0874_QC254_231011	W	11/10/2023		2 x P	2	X
	0874_QC255_231012	W	12/10/2023		2 x P	2	X
	0874_QC256_231012	W	12/10/2023		2 x P	2	X
RECEIVED BY:		RECEIVED BY:		RECEIVED BY:		METHOD OF SHIPMENT	
Name: [REDACTED]	Date:	Name: [REDACTED]	Date: 5/3/23	Name:	Date:	Con' Note No:	
Of: AECOM	Time:	Of:	Time: 3:10	Of:	Time:	Transport Co:	
<p>Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Gel Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic</p> <p>V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SO = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic</p> <p>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</p> <p>Soil Container Codes: Jar = Unpreserved glass jar</p>							

17/10/23 8:30am
Cg/Ad
18.1
AL



FW: Eurofins Test Results, Invoice - Report 1035859 : Site QLD_0874_PFASUMP_23

Mon 30/10/23 12:28 PM

To: #AU03_EnviroSampleBris <EnviroSampleBris@eurofins.com>

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

Hi

Can you please rebatch the trip blank in this report?

Oc0039779 – BWOC069

Kind Regards,

Assistant Analytical Service Manager

Office hours: 9:00am - 5:00pm

Eurofins Environment Testing Australia Pty Ltd

1/21 Smallwood Place

MURARRIE QLD 4172

AUSTRALIA

Phone: +61 7 3902 4681

E-mail:

Website: www.eurofins.com.au/environmental-testing

Handwritten red text:
#1039604-



This e-mail including its attachments may contain confidential and proprietary information. Any unauthorized disclosure or use of this e-mail including its attachments is prohibited and may be prosecuted. If you are not the intended recipient, please inform the sender by an e-mail reply and delete the message.

Transmission by e-mail is not secure and can result in errors or omissions in the content of the message. Despite state-of-the-art precautions we cannot guarantee that e-mails and attachments are free from viruses. We accept no liability for viruses or any transmission-related errors and omissions. You need to always virus-check any e-mails and attachments.

Eurofins companies are independent legal entities that are bound only by members of their management bodies. No other persons have representation power unless specifically authorised by proxy or other legal means.

From:

Sent: Monday, 30 October 2023 8:50 AM

To:

Cc:

Subject: RE: Eurofins Test Results, Invoice - Report 1035859 : Site QLD_0874_PFASUMP_23

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi

From: [REDACTED]
Sent: Monday, 30 October 2023 8:50 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Eurofins Test Results, Invoice - Report 1035859 : Site QLD_0874_PFASUMP_23

CAUTION: EXTERNAL EMAIL -
Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi [REDACTED]

Could we please have the results reissued with the project name changed to the following:
QLD_0874_PFASOMP_23 (Change in red text)

Can we also please have the trip blank analysed (Lab ID: B23-c and have the sample ID changed to 0874_QC502_231013).

Kind regards,

[REDACTED]
Graduate Environmental Scientist
M +61 498 666 048

[REDACTED]
AECOM
Level 5, 7-13 Tomlins Street
PO Box 5423
South Townsville, QLD, 4810, Australia
T +61 7 4729 5500

aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

llh

#1039604-

Appendix E

Laboratory Analytical Reports



CERTIFICATE OF ANALYSIS

Work Order : **ET2304829**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 5175
 TOWNSVILLE QLD, AUSTRALIA 4870
Telephone : ----
Project : QLD_0874_PFASOMP_23
Order number : 60612487_2.1
C-O-C number : 58360
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 19
No. of samples analysed : 19

Page : 1 of 13
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : +61 7 3552 8616
Date Samples Received : 10-Oct-2023 08:00
Date Analysis Commenced : 10-Oct-2023
Issue Date : 16-Oct-2023 14:57



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
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Soil Preparation, 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Whole bottle extraction was not possible for sample '0874_SW115_231003' (ET2304829-010). Sample required dilution prior to extraction due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- 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.
- 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	0874_QC101_231006	0874_SD207_231006	0874_SD205_231006	0874_SD204_231006	0874_SD203_231006
Sampling date / time					06-Oct-2023 09:25	06-Oct-2023 09:20	06-Oct-2023 10:25	06-Oct-2023 11:25	06-Oct-2023 11:05
Compound	CAS Number	LOR	Unit	ET2304829-001	ET2304829-002	ET2304829-003	ET2304829-004	ET2304829-005	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	—	0.1	%	46.0	41.8	42.8	45.1	47.1	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<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	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0019	0.0015	0.0015	0.0012	0.0011	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<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	<0.0002	
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	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTriDA)	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	<0.0005	
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	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_QC101_231006	0874_SD207_231006	0874_SD205_231006	0874_SD204_231006	0874_SD203_231006
Sampling date / time					06-Oct-2023 09:25	06-Oct-2023 09:20	06-Oct-2023 10:25	06-Oct-2023 11:25	06-Oct-2023 11:05
Compound	CAS Number	LOR	Unit	ET2304829-001	ET2304829-002	ET2304829-003	ET2304829-004	ET2304829-005	
				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	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<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	<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	0.0019	0.0015	0.0015	0.0012	0.0011	
Sum of PF3ks and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0019	0.0015	0.0015	0.0012	0.0011	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0019	0.0015	0.0015	0.0012	0.0011	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	101	104	102	104	96.5	
13C8-PFOA	---	0.0002	%	100	98.5	103	105	99.0	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD206_231006	0874_SD115_231003	0874_SD202_231006	---	---
Sampling date / time					06-Oct-2023 09:56	03-Oct-2023 11:11	06-Oct-2023 08:09	---	---
Compound	CAS Number	LOR	Unit		ET2304829-006	ET2304829-007	ET2304829-008	-----	-----
					Result	Result	Result	---	---
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	---	0.1	%		40.5	49.9	37.7	---	---
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	0.0005	<0.0002	---	---
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	0.0006	<0.0002	---	---
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	0.0084	<0.0002	---	---
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	0.0008	<0.0002	---	---
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		0.0014	0.0438	0.0030	---	---
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	0.0007	<0.0002	---	---
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	0.0014	<0.0002	---	---
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	0.0005	<0.0002	---	---
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	0.0021	0.0002	---	---
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	---	---
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	---	---
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	---	---
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	---	---
Perfluorotridecanoic acid (PFTriDA)	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	0874_SD206_231006	0874_SD115_231003	0874_SD202_231006	---	---
Sampling date / time				06-Oct-2023 09:56	03-Oct-2023 11:11	06-Oct-2023 08:09	---	---	
Compound	CAS Number	LOR	Unit	ET2304829-006	ET2304829-007	ET2304829-008	-----	-----	
				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	0.0014	0.0588	0.0032	---	---	
Sum of PF3ks and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0014	0.0522	0.0030	---	---	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0014	0.0567	0.0032	---	---	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	106	95.0	99.0	---	---	
13C8-PFOA	---	0.0002	%	99.0	99.0	102	---	---	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_QC500_231006	0874_SW115_231003	0874_QC300_231003	0874_SW202_231006	0874_SW203_231006
				Sampling date / time	06-Oct-2023 14:14	03-Oct-2023 23:16	03-Oct-2023 11:17	06-Oct-2023 08:05	06-Oct-2023 11:05
Compound	CAS Number	LOR	Unit	ET2304829-009	ET2304829-010	ET2304829-011	ET2304829-012	ET2304829-013	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.03	<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	0.12	<0.01	0.02	0.02	
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	0.22	<0.01	0.03	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	<0.1	<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	0.04	<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	<0.02	<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 (PFTriDA)	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: SURFACE WATER (Matrix: WATER)				Sample ID	0874_QC500_231006	0874_SW115_231003	0874_QC300_231003	0874_SW202_231006	0874_SW203_231006
				Sampling date / time	06-Oct-2023 14:14	03-Oct-2023 23:16	03-Oct-2023 11:17	06-Oct-2023 08:05	06-Oct-2023 11:05
Compound	CAS Number	LOR	Unit	ET2304829-009	ET2304829-010	ET2304829-011	ET2304829-012	ET2304829-013	
				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	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.06	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	<0.01	0.47	<0.01	0.05	0.04	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.34	<0.01	0.05	0.04	
Sum of PFAS (WA DER List)	—	0.01	µg/L	<0.01	0.47	<0.01	0.05	0.04	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	118	120	121	122	123	
13C8-PFOA	—	0.02	%	98.6	97.9	97.6	97.2	99.5	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0874_SW204_231006	0874_SW205_231006	0874_SW206_231006	0874_SW207_231006	0874_QC301_231006
			Sampling date / time	06-Oct-2023 11:26	06-Oct-2023 10:25	06-Oct-2023 09:50	06-Oct-2023 09:21	06-Oct-2023 14:28
Compound	CAS Number	LOR	Unit	ET2304829-014	ET2304829-015	ET2304829-016	ET2304829-017	ET2304829-018
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.03	<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	0.05	0.05	0.04	<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	0.05	0.06	0.05	<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	0.03	<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: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW204_231006	0874_SW205_231006	0874_SW206_231006	0874_SW207_231006	0874_QC301_231006
				Sampling date / time	06-Oct-2023 11:26	06-Oct-2023 10:25	06-Oct-2023 09:50	06-Oct-2023 09:21	06-Oct-2023 14:28
Compound	CAS Number	LOR	Unit	ET2304829-014	ET2304829-015	ET2304829-016	ET2304829-017	ET2304829-018	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.02	0.13	0.14	0.09	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.10	0.11	0.09	<0.01	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.02	0.13	0.14	0.09	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	126	130	128	120	120	
13C8-PFOA	—	0.02	%	96.8	95.6	99.6	96.0	99.8	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID		0874_QC100_231006	---	---	---	---
		Sampling date / time		06-Oct-2023 09:25	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2304829-019	-----	-----	-----	-----
				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 (PFTriDA)	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: SURFACE WATER (Matrix: WATER)			Sample ID	0874_QC100_231006	---	---	---	---
			Sampling date / time	06-Oct-2023 09:25	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2304829-019	---	---	---	---
				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	%	125	---	---	---	---
13C8-PFOA	---	0.02	%	97.6	---	---	---	---



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: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	65	140
13C8-PFOA	---	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EP231P: PFAS Sums

(SOIL) EP231S: PFAS Surrogate

(SOIL) EA055: Moisture Content (Dried @ 105-110°C)

(SOIL) EP231B: Perfluoroalkyl Carboxylic Acids

(SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(SOIL) EP231C: Perfluoroalkyl Sulfonamides

(SOIL) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2304829	Page	: 1 of 6
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 10-Oct-2023
Site	: QLD_0874	Issue Date	: 16-Oct-2023
Sampler	: [REDACTED]	No. of samples received	: 19
Order number	: 60612487_2.1	No. of samples analysed	: 19

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		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP) Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	18	5.56	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 as 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) 0874_SD115_231003	03-Oct-2023	---	---	---	12-Oct-2023	17-Oct-2023	✓	
HDPE Soil Jar (EA055) 0874_QC101_231006, 0874_SD205_231006, 0874_SD203_231006, 0874_SD202_231006	0874_SD207_231006, 0874_SD204_231006, 0874_SD206_231006	06-Oct-2023	---	---	12-Oct-2023	20-Oct-2023	✓	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD115_231003	03-Oct-2023	13-Oct-2023	31-Mar-2024	✓	15-Oct-2023	22-Nov-2023	✓	
HDPE Soil Jar (EP231X) 0874_QC101_231006, 0874_SD205_231006, 0874_SD203_231006, 0874_SD202_231006	0874_SD207_231006, 0874_SD204_231006, 0874_SD206_231006	06-Oct-2023	13-Oct-2023	03-Apr-2024	✓	15-Oct-2023	22-Nov-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD115_231003	03-Oct-2023	13-Oct-2023	31-Mar-2024	✓	15-Oct-2023	22-Nov-2023	✓	
HDPE Soil Jar (EP231X) 0874_QC101_231006, 0874_SD205_231006, 0874_SD203_231006, 0874_SD202_231006	0874_SD207_231006, 0874_SD204_231006, 0874_SD206_231006	06-Oct-2023	13-Oct-2023	03-Apr-2024	✓	15-Oct-2023	22-Nov-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	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD115_231003	03-Oct-2023	13-Oct-2023	31-Mar-2024	✓	15-Oct-2023	22-Nov-2023	✓	
HDPE Soil Jar (EP231X) 0874_QC101_231006, 0874_SD205_231006, 0874_SD203_231006, 0874_SD202_231006	0874_SD207_231006, 0874_SD204_231006, 0874_SD206_231006,	06-Oct-2023	13-Oct-2023	03-Apr-2024	✓	15-Oct-2023	22-Nov-2023	✓
EP231D: (n-2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD115_231003	03-Oct-2023	13-Oct-2023	31-Mar-2024	✓	15-Oct-2023	22-Nov-2023	✓	
HDPE Soil Jar (EP231X) 0874_QC101_231006, 0874_SD205_231006, 0874_SD203_231006, 0874_SD202_231006	0874_SD207_231006, 0874_SD204_231006, 0874_SD206_231006,	06-Oct-2023	13-Oct-2023	03-Apr-2024	✓	15-Oct-2023	22-Nov-2023	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD115_231003	03-Oct-2023	13-Oct-2023	31-Mar-2024	✓	15-Oct-2023	22-Nov-2023	✓	
HDPE Soil Jar (EP231X) 0874_QC101_231006, 0874_SD205_231006, 0874_SD203_231006, 0874_SD202_231006	0874_SD207_231006, 0874_SD204_231006, 0874_SD206_231006,	06-Oct-2023	13-Oct-2023	03-Apr-2024	✓	15-Oct-2023	22-Nov-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	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW115_231003	0874_QC300_231003	03-Oct-2023	12-Oct-2023	31-Mar-2024	✓	12-Oct-2023	31-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_231006, 0874_SW203_231006, 0874_SW205_231006, 0874_SW207_231006, 0874_QC100_231006	0874_SW202_231006, 0874_SW204_231006, 0874_SW206_231006, 0874_QC301_231006,	06-Oct-2023	12-Oct-2023	03-Apr-2024	✓	12-Oct-2023	03-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) 0874_SW115_231003,	0874_QC300_231003	03-Oct-2023	12-Oct-2023	31-Mar-2024	✓	12-Oct-2023	31-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_231006, 0874_SW203_231006, 0874_SW205_231006, 0874_SW207_231006, 0874_QC100_231006	0874_SW202_231006, 0874_SW204_231006, 0874_SW206_231006, 0874_QC301_231006,	06-Oct-2023	12-Oct-2023	03-Apr-2024	✓	12-Oct-2023	03-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW115_231003,	0874_QC300_231003	03-Oct-2023	12-Oct-2023	31-Mar-2024	✓	12-Oct-2023	31-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_231006, 0874_SW203_231006, 0874_SW205_231006, 0874_SW207_231006, 0874_QC100_231006	0874_SW202_231006, 0874_SW204_231006, 0874_SW206_231006, 0874_QC301_231006,	06-Oct-2023	12-Oct-2023	03-Apr-2024	✓	12-Oct-2023	03-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW115_231003,	0874_QC300_231003	03-Oct-2023	12-Oct-2023	31-Mar-2024	✓	12-Oct-2023	31-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_231006, 0874_SW203_231006, 0874_SW205_231006, 0874_SW207_231006, 0874_QC100_231006	0874_SW202_231006, 0874_SW204_231006, 0874_SW206_231006, 0874_QC301_231006,	06-Oct-2023	12-Oct-2023	03-Apr-2024	✓	12-Oct-2023	03-Apr-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW115_231003,	0874_QC300_231003	03-Oct-2023	12-Oct-2023	31-Mar-2024	✓	12-Oct-2023	31-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_231006, 0874_SW203_231006, 0874_SW205_231006, 0874_SW207_231006, 0874_QC100_231006	0874_SW202_231006, 0874_SW204_231006, 0874_SW206_231006, 0874_QC301_231006,	06-Oct-2023	12-Oct-2023	03-Apr-2024	✓	12-Oct-2023	03-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: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	8	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	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
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.



QUALITY CONTROL REPORT

Work Order	: ET2304829	Page	: 1 of 9
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5175 TOWNSVILLE QLD, AUSTRALIA 4870	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: —	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 10-Oct-2023
Order number	: 60612487_2.1	Date Analysis Commenced	: 10-Oct-2023
C-O-C number	: 58360	Issue Date	: 16-Oct-2023
Sampler	: [REDACTED] [REDACTED] [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 19		
No. of samples analysed	: 19		



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
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Soil Preparation, 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 NIEPM. 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/Concentration	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5356391)									
ET2304829-001	0874_QC101_231006	EA055: Moisture Content	---	0.1	%	46.0	47.2	2.7	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5356390)									
ET2304829-001	0874_QC101_231006	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	0.0019	0.0016	14.2	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: 5356390)									
ET2304829-001	0874_QC101_231006	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 (PFTriDA)	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: 5356390)							
ET2304829-001	0874_QC101_231006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	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 (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5356390) - continued									
ET2304829-001	0874_QC101_231006	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 (EiFOSAA)	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 (EiFOSA)	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 (EiFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5356390)									
ET2304829-001	0874_QC101_231006	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 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: 5353528)									
ET2304829-012	0874_SW202_231006	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	0.03	0.03	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: 5353528)									
ET2304829-012	0874_SW202_231006	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 (PFTriDA)	72529-94-8	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 (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5353528) - continued									
ET2304829-012	0874_SW202_231006	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: 5353528)									
ET2304829-012	0874_SW202_231006	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 (MeFOA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOA)	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: 5353528)									
ET2304829-012	0874_SW202_231006	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: 5353528)									
ET2304829-012	0874_SW202_231006	EP231X: Sum of PFAS	—	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	—	0.01	µg/L	0.05	0.05	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5356390)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	107	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	103	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	95.8	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	89.5	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	95.7	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	76.7	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5356390)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	89.5	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.6	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	69.0	135
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	126	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5356390)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	96.3	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	106	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.8	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.6	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5356390)								



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method/Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5356390) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	105	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	105	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	106	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	75.8	54.8	124

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method/Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5353528)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	110	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	126	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	114	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	110	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: 5353528)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	129	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	128	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	132	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	125	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	130	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	94.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5353528)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	118	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	136	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	121	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	124	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	134	62.6	138



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LDR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%)	
						Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5353528) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	105	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5353528)								
EP231X: 4.2 Fluorotelomer sulfonic acid (4.2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	121	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	130	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	93.2	64.2	133
EP231P: PFAS Sums (QCLot: 5353528)								
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	Spike Recovery (%) MS	Acceptable Limits (%)	
						Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5356390)							
ET2304829-002	0874_SD207_231006	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	108	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	106	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	98.7	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	98.7	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	101	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	90.0	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5356390)							
ET2304829-002	0874_SD207_231006	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	106	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	112	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	105	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	107	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	124	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	112	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	99.2	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	118	64.0	136



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5356390) - continued							
ET2304829-002	0874_SD207_231006	EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	106	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	125	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	112	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5356390)							
ET2304829-002	0874_SD207_231006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	119	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	118	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	129	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	122	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	108	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	110	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5356390)							
ET2304829-002	0874_SD207_231006	EP231X: 4.2 Fluorotelomer sulfonic acid (4.2 FTS)	757124-72-4	0.00117 mg/kg	122	62.0	145
		EP231X: 6.2 Fluorotelomer sulfonic acid (6.2 FTS)	27619-97-2	0.00118 mg/kg	108	64.0	140
		EP231X: 8.2 Fluorotelomer sulfonic acid (8.2 FTS)	39108-34-4	0.0012 mg/kg	113	65.0	137
		EP231X: 10.2 Fluorotelomer sulfonic acid (10.2 FTS)	120226-60-0	0.0012 mg/kg	105	70.0	130

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5353528)							
ET2304829-016	0874_SW206_231006	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	126	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	105	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	118	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	100	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5353528)							
ET2304829-016	0874_SW206_231006	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	119	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.8	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	102	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	122	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	99.1	69.0	130



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5353528) - continued							
ET2304829-016	0874_SW206_231006	EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	124	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	132	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	84.7	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	89.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5353528)							
ET2304829-016	0874_SW206_231006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	118	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	121	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	95.7	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	123	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	97.7	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	102	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5353528)							
ET2304829-016	0874_SW206_231006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	121	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	117	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	99.3	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ET2304829**

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5175 TOWNSVILLE QLD, AUSTRALIA 4870	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]@aecom.com	E-mail	: [REDACTED]@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8616
Facsimile	: ----	Facsimile	:
Project	: QLD_0874_PFASOMP_23	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 58360	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED] [REDACTED] [REDACTED]		

Dates

Date Samples Received	: 10-Oct-2023 08:00	Issue Date	: 10-Oct-2023
Client Requested Due Date	: 17-Oct-2023	Scheduled Reporting Date	: 17-Oct-2023

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 4.0°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 19 / 19

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
- ***Samples were originally received by ALS Townsville on 06/10/23, and forwarded to ALS Brisbane for analysis.**
- **PLEASE NOTE: as per email request ALS is to "change the ID of the following sediment sample: PFAS sediment jar – "0874_QC100_231006" be changed to "0874_QC101_231006"."**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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 - EAO55-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2304829-001	06-Oct-2023 09:25	0874_QC101_231006	✓	✓
ET2304829-002	06-Oct-2023 09:20	0874_SD207_231006	✓	✓
ET2304829-003	06-Oct-2023 10:25	0874_SD205_231006	✓	✓
ET2304829-004	06-Oct-2023 11:25	0874_SD204_231006	✓	✓
ET2304829-005	06-Oct-2023 11:05	0874_SD203_231006	✓	✓
ET2304829-006	06-Oct-2023 09:56	0874_SD206_231006	✓	✓
ET2304829-007	03-Oct-2023 11:11	0874_SD115_231003	✓	✓
ET2304829-008	06-Oct-2023 08:09	0874_SD202_231006	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2304829-009	06-Oct-2023 14:14	0874_QC500_231006	✓
ET2304829-010	03-Oct-2023 23:16	0874_SW115_231003	✓
ET2304829-011	03-Oct-2023 11:17	0874_QC300_231003	✓
ET2304829-012	06-Oct-2023 08:05	0874_SW202_231006	✓
ET2304829-013	06-Oct-2023 11:05	0874_SW203_231006	✓
ET2304829-014	06-Oct-2023 11:26	0874_SW204_231006	✓
ET2304829-015	06-Oct-2023 10:25	0874_SW205_231006	✓
ET2304829-016	06-Oct-2023 09:50	0874_SW206_231006	✓
ET2304829-017	06-Oct-2023 09:21	0874_SW207_231006	✓
ET2304829-018	06-Oct-2023 14:28	0874_QC301_231006	✓
ET2304829-019	06-Oct-2023 09:25	0874_QC100_231006	✓

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

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

DERP REPORTS

- EDI Format - ESDAT (ESDAT)

Email derp.labreports@escis.com.au

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums



CERTIFICATE OF ANALYSIS

Work Order	: ET2304975	Page	: 1 of 44
Amendment	: 3		
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 17-Oct-2023 08:00
Order number	: 60612487_2.1	Date Analysis Commenced	: 20-Oct-2023
C-O-C number	: 58433	Issue Date	: 16-Nov-2023 14:15
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 85		
No. of samples analysed	: 85		



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 Soil Preparation, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[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
σ = 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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- Amendment 8/11/2023: This report has been amended as a result of a request to change sample name(IDs) received from [REDACTED] on 8/11/23, for samples ET2304975_036 '0874_MW212_231010' to '0874_MW221_231010'. All analysis results are as per the previous report.
- Amendment (9/11/2023): This report has been amended following a change to the EP231X-PFAS results reported for sample '0874_SD016_231011' (ET2304975_055) due to an analyst error. All details are recorded in client query 23BNC491 and a full investigation will be detailed in corrective action request 23BNC156.
- Amendment (15/11/2023): This report has been amended following a change to the EP231X - PFAS. PFDoDA result reported for sample '0874_SD129_231009'(ET2304975-004) due to an analyst error. All details are recorded in client query 23BNC503 and a full investigation will be detailed in corrective action request 23BNC158.
- EP231X PFAS: Sample '0874_SW106_231011'(ET2304975-062) shows poor duplicate results due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Particular samples required dilution due to the presence of high-level contaminants. LOR values have been adjusted accordingly. The LOR values of particular analytes have been further raised for particular samples due to matrix interferences. Surrogate recoveries not determined.
- EP231X PFAS: Sample '0874_SD118_231009' (ET2304975-020) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- EP231X PFAS: The LORs of particular samples have been raised due to sample matrix interferences.
- EP231X PFAS: The high recovery laboratory control standard for 10:2 FTS & 8:2 FTS is deemed acceptable as associated results are less than the limit of reporting.
- EP231X PFAS: The high recovery matrix spikes for 10:2 FTS & 8:2 FTS are deemed acceptable as associated results are less than the limit of reporting.
- 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.
- 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: GROUNDWATER (Matrix: WATER)				Sample ID	0874_MW205_231010	0874_MW206_231010	0874_QC105_231010	0874_MW212_231010	0874_MW214_231010
Sampling date / time					10-Oct-2023 09:25	10-Oct-2023 09:48	10-Oct-2023 09:49	10-Oct-2023 10:10	10-Oct-2023 10:35
Compound	CAS Number	LOR	Unit	ET2304975-025	ET2304975-026	ET2304975-027	ET2304975-028	ET2304975-029	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	2.05	1.80	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	1.98	2.05	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	12.4	12.4	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.17	0.15	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.02	<0.04	0.02	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.7	0.6	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.91	0.88	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	5.03	4.51	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.33	0.31	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.12	0.11	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.11	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.11	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.11	<0.05	<0.05	



Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0874_MW205_231010	0874_MW206_231010	0874_QC105_231010	0874_MW212_231010	0874_MW214_231010
				Sampling date / time	10-Oct-2023 09:25	10-Oct-2023 09:48	10-Oct-2023 09:49	10-Oct-2023 10:10	10-Oct-2023 10:35
Compound	CAS Number	LOR	Unit	ET2304975-025	ET2304975-026	ET2304975-027	ET2304975-028	ET2304975-029	
				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	<0.11	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.11	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.04	<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	0.03	23.7	22.8	0.02	0.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	12.4	12.4	0.02	0.03	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.03	21.5	20.6	0.02	0.03	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	99.9	101	97.0	98.6	99.5	
13C8-PFOA	—	0.02	%	98.0	101	93.3	97.2	96.9	



Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0874_MW264_231010	0874_MW216_231010	0874_MW217_231010	0874_QC106_231010	0874_MW218_231010
Sampling date / time			10-Oct-2023 11:39	10-Oct-2023 11:57	10-Oct-2023 12:39	10-Oct-2023 12:40	10-Oct-2023 14:07	
Compound	CAS Number	LOR	Unit	ET2304975-030	ET2304975-031	ET2304975-032	ET2304975-033	ET2304975-035
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.23	<0.02	<0.02	<0.02	0.14
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.12	<0.02	<0.02	<0.02	0.13
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.53	0.01	<0.01	<0.01	4.74
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.14
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.07	0.01	0.02	1.96
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	0.09
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.68
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	<0.01	<0.01	<0.01	0.07
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: GROUNDWATER (Matrix: WATER)				Sample ID	0874_MW264_231010	0874_MW216_231010	0874_MW217_231010	0874_QC106_231010	0874_MW218_231010
Sampling date / time					10-Oct-2023 11:39	10-Oct-2023 11:57	10-Oct-2023 12:39	10-Oct-2023 12:40	10-Oct-2023 14:07
Compound	CAS Number	LOR	Unit	ET2304975-030	ET2304975-031	ET2304975-032	ET2304975-033	ET2304975-035	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.91	0.08	0.01	0.02	8.00	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.56	0.08	0.01	0.02	6.70	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.79	0.08	0.01	0.02	7.73	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	105	93.9	95.0	101	106	
13C8-PFOA	—	0.02	%	97.5	100	96.0	100	102	



Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)		Sample ID		0874_MW221_231010	0874_MW225_231010	0874_MW267_231013	---	---
		Sampling date / time		10-Oct-2023 14:39	10-Oct-2023 14:57	13-Oct-2023 09:21	---	---
Compound	CAS Number	LOR	Unit	ET2304975-036	ET2304975-037	ET2304975-084	-----	-----
				Result	Result	Result	---	---
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.29	<0.06	0.08	---	---
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	<0.02	0.06	---	---
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.22	0.07	0.21	---	---
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	<0.02	<0.02	---	---
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.76	0.20	0.14	---	---
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	0.07	<0.02	<0.02	---	---
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.35	<0.02	0.03	---	---
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	<0.02	<0.02	---	---
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	<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 (PFTriDA)	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: GROUNDWATER (Matrix: WATER)				Sample ID	0874_MW221_231010	0874_MW225_231010	0874_MW267_231013	---	---
				Sampling date / time	10-Oct-2023 14:39	10-Oct-2023 14:57	13-Oct-2023 09:21	---	---
Compound	CAS Number	LOR	Unit	ET2304975-036	ET2304975-037	ET2304975-084	-----	-----	
				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	3.06	0.27	0.53	---	---	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.98	0.27	0.35	---	---	
Sum of PFAS (WA DER List)	---	0.01	µg/L	2.78	0.27	0.47	---	---	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.02	%	115	121	116	---	---	
13C8-PFOA	---	0.02	%	101	106	99.8	---	---	



Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)		Sample ID		0874_QC302_231010	---	---	---	---
		Sampling date / time		10-Oct-2023 12:51	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2304975-034	-----	-----	-----	-----
				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: RINSATE (Matrix: WATER)		Sample ID		0874_QC302_231010	---	---	---	---
		Sampling date / time		10-Oct-2023 12:51	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2304975-034	-----	-----	-----	-----
				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	%	105	---	---	---	---
13C8-PFOA	---	0.02	%	99.4	---	---	---	---



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD201_231009	0874_SD129_231009	0874_SD127_231009	0874_QC102_231009	0874_SD120_231009
		Sampling date / time		09-Oct-2023 11:31	09-Oct-2023 11:32	09-Oct-2023 11:53	09-Oct-2023 11:56	09-Oct-2023 13:07
Compound	CAS Number	LOR	Unit	ET2304975-003	ET2304975-004	ET2304975-005	ET2304975-007	ET2304975-009
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	—	0.1	%	24.7	47.2	33.8	24.2	11.6
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<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	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0015	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0003	0.0043	<0.0002	<0.0005	0.0003
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<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	<0.0002
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	0.0003	<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	<0.0002	0.0006	0.0003	<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	<0.0005
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	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD201_231009	0874_SD129_231009	0874_SD127_231009	0874_QC102_231009	0874_SD120_231009
Sampling date / time					09-Oct-2023 11:31	09-Oct-2023 11:32	09-Oct-2023 11:53	09-Oct-2023 11:56	09-Oct-2023 13:07
Compound	CAS Number	LOR	Unit	ET2304975-003	ET2304975-004	ET2304975-005	ET2304975-007	ET2304975-009	
				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	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<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	<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	0.0003	0.0049	0.0006	0.0003	0.0003	
Sum of PF3ks and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0003	0.0046	<0.0002	<0.0002	0.0003	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0003	0.0049	<0.0002	<0.0002	0.0003	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	124	119	102	126	122	
13C8-PFOA	---	0.0002	%	97.5	108	87.0	106	101	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD017_231009	0874_SD021_231009	0874_SD119_231009	0874_SD113_231009	0874_SD117_231009
Sampling date / time					09-Oct-2023 13:22	09-Oct-2023 13:52	09-Oct-2023 14:27	09-Oct-2023 15:08	09-Oct-2023 15:24
Compound	CAS Number	LOR	Unit	ET2304975-011	ET2304975-012	ET2304975-014	ET2304975-016	ET2304975-019	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	---	0.1	%	21.5	35.6	34.8	70.2	54.9	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0118	0.0078	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0106	0.0109	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0017	0.129	0.117	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0003	0.0090	0.0090	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.0009	0.0187	0.607	0.419	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0003	<0.0005	<0.0005	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.002	<0.002	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0042	0.0031	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0168	0.0200	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0011	0.0058	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0003	0.0063	0.0221	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0003	<0.0005	0.0014	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0012	<0.0013	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0012	<0.0013	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD017_231009	0874_SD021_231009	0874_SD119_231009	0874_SD113_231009	0874_SD117_231009
Sampling date / time					09-Oct-2023 13:22	09-Oct-2023 13:52	09-Oct-2023 14:27	09-Oct-2023 15:08	09-Oct-2023 15:24
Compound	CAS Number	LOR	Unit	ET2304975-011	ET2304975-012	ET2304975-014	ET2304975-016	ET2304975-019	
				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	<0.0012	<0.0013	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0012	<0.0013	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0012	<0.0013	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	
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	<0.0002	0.0009	0.0210	0.785	0.616	
Sum of PF3xS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	0.0009	0.0204	0.736	0.536	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	<0.0002	0.0009	0.0207	0.776	0.595	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	128	79.0	105	90.0	130	
13C8-PFOA	---	0.0002	%	95.0	90.5	128	85.0	80.0	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0874_SD118_231009	0874_SD114_231009	0874_QC104_231009	0874_SD112_231011	0874_SD014_231011
Sampling date / time			09-Oct-2023 15:38	09-Oct-2023 15:59	09-Oct-2023 16:00	11-Oct-2023 09:35	11-Oct-2023 10:12	
Compound	CAS Number	LOR	Unit	ET2304975-020	ET2304975-022	ET2304975-023	ET2304975-039	ET2304975-041
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	—	0.1	%	66.2	21.1	22.3	22.5	13.5
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0019	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0017	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0178	0.0006	0.0006	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0021	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.129	0.0056	0.0057	0.0008	0.0003
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0006	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.002	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0008	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0042	0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0009	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0030	<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	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTriDA)	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	<0.0005
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	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD118_231009	0874_SD114_231009	0874_QC104_231009	0874_SD112_231011	0874_SD014_231011
Sampling date / time					09-Oct-2023 15:38	09-Oct-2023 15:59	09-Oct-2023 16:00	11-Oct-2023 09:35	11-Oct-2023 10:12
Compound	CAS Number	LOR	Unit	ET2304975-020	ET2304975-022	ET2304975-023	ET2304975-039	ET2304975-041	
				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	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<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	<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	0.161	0.0084	0.0063	0.0008	0.0003	
Sum of PF3xS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.147	0.0062	0.0063	0.0008	0.0003	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.158	0.0084	0.0063	0.0008	0.0003	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	77.0	126	100	122	121	
13C8-PFOA	---	0.0002	%	81.5	92.0	95.0	110	122	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD121_231011	0874_SD010_231011	0874_SD132_231011	0874_SD001_231011	0874_SD123_231011
Sampling date / time				11-Oct-2023 10:40	11-Oct-2023 11:04	11-Oct-2023 11:25	11-Oct-2023 11:31	11-Oct-2023 12:08
Compound	CAS Number	LOR	Unit	ET2304975-042	ET2304975-043	ET2304975-045	ET2304975-047	ET2304975-049
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	—	0.1	%	42.4	60.5	26.4	34.6	23.1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0007	<0.0004	0.0007	0.0006	0.0082
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0008	<0.0002	0.0007	0.0006	0.0142
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0100	0.0019	0.0072	0.0064	0.469
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0007	<0.0002	0.0007	0.0008	0.0514
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0522	0.0561	0.0518	0.0596	0.988
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0008	<0.0005	<0.0002	<0.0002	<0.0010
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.005
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0003	0.0003	<0.0002	0.0042
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0006	0.0004	0.0016	0.0007	0.0264
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0003	<0.0002	0.0058
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0003	0.0027	0.0006	0.0432
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.0004	<0.0002	<0.0002	<0.0010
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.0004	<0.0002	<0.0002	<0.0010
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.0003	<0.0002	<0.0002	<0.0010
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0041	0.0005	<0.0002	<0.0002	0.0012
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0010
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0002	<0.0010
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD121_231011	0874_SD010_231011	0874_SD132_231011	0874_SD001_231011	0874_SD123_231011
Sampling date / time					11-Oct-2023 10:40	11-Oct-2023 11:04	11-Oct-2023 11:25	11-Oct-2023 11:31	11-Oct-2023 12:08
Compound	CAS Number	LOR	Unit	ET2304975-042	ET2304975-043	ET2304975-045	ET2304975-047	ET2304975-049	
				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	<0.0025	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0010	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0010	
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	<0.0010	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
EP231P: PFAS Sums									
Sum of PFAS	---	0.0002	mg/kg	0.0694	0.0603	0.0660	0.0695	1.61	
Sum of PF3ks and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0622	0.0580	0.0590	0.0660	1.46	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0638	0.0587	0.0646	0.0679	1.54	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	108	124	78.0	90.5	130	
13C8-PFOA	---	0.0002	%	98.0	97.5	106	100	130	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0874_QC107_231011	0874_SD102_231011	0874_SD013_231011	0874_SD016_231011	0874_SD131_231011
Sampling date / time				11-Oct-2023 12:08	11-Oct-2023 12:39	11-Oct-2023 13:13	11-Oct-2023 13:20	11-Oct-2023 13:53
Compound	CAS Number	LOR	Unit	ET2304975-050	ET2304975-053	ET2304975-054	ET2304975-055	ET2304975-057
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	---	0.1	%	22.3	72.6	4.5	7.1	27.5
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0086	0.0156	0.0003	0.361	0.0004
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0169	0.0106	0.0002	0.178	<0.0003
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.457	0.0923	0.0024	5.09	0.0072
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0616	0.0036	0.0002	1.62	0.0016
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	1.50	0.179	0.0159	57.5	0.9994
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0025	<0.0008	<0.0002	<0.0500	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.012	0.004	<0.001	<0.250	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0051	0.0038	<0.0002	0.334	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0303	0.0180	0.0004	1.02	0.0010
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0067	0.0013	<0.0002	0.6808	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0364	0.0025	<0.0002	0.517	0.0007
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0062	<0.0005	<0.0005	<0.125	<0.0005
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	0.0700	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0062	<0.0005	<0.0005	<0.125	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_QC107_231011	0874_SD102_231011	0874_SD013_231011	0874_SD016_231011	0874_SD131_231011
Sampling date / time					11-Oct-2023 12:08	11-Oct-2023 12:39	11-Oct-2023 13:13	11-Oct-2023 13:20	11-Oct-2023 13:53
Compound	CAS Number	LOR	Unit	ET2304975-050	ET2304975-053	ET2304975-054	ET2304975-055	ET2304975-057	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0062	<0.0005	<0.0005	<0.125	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0062	<0.0005	<0.0005	<0.125	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0062	<0.0005	<0.0005	<0.125	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0025	<0.0002	<0.0002	<0.0500	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0500	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0500	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0500	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0500	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	---	0.0002	mg/kg	2.12	0.331	0.0194	66.8	0.110	
Sum of PF3ks and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	1.96	0.271	0.0183	62.6	0.107	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	2.04	0.316	0.0190	64.9	0.109	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	Not Determined	111	127	Not Determined	116	
13C8-PFOA	---	0.0002	%	75.0	97.0	95.0	Not Determined	109	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD126_231011	0874_SD125_231011	0874_SD106_231011	0874_SD209_231011	0874_SD210_231012
Sampling date / time					11-Oct-2023 14:07	11-Oct-2023 15:04	11-Oct-2023 15:40	11-Oct-2023 16:08	12-Oct-2023 09:27
Compound	CAS Number	LOR	Unit	ET2304975-059	ET2304975-060	ET2304975-061	ET2304975-064	ET2304975-067	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	---	0.1	%	6.6	2.8	48.6	59.7	34.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0002	0.181	<0.0006	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0003	0.0292	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0059	0.177	0.0015	0.0012	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0008	0.0625	0.0006	<0.0003	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0685	8.94	0.146	0.0112	0.0009	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0050	<0.0003	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.057	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0825	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0003	0.161	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0056	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0159	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0050	0.0003	0.0002	<0.0002	
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0124	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0124	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD126_231011	0874_SD125_231011	0874_SD106_231011	0874_SD209_231011	0874_SD210_231012
Sampling date / time					11-Oct-2023 14:07	11-Oct-2023 15:04	11-Oct-2023 15:40	11-Oct-2023 16:08	12-Oct-2023 09:27
Compound	CAS Number	LOR	Unit	ET2304975-059	ET2304975-060	ET2304975-061	ET2304975-064	ET2304975-067	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0124	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0124	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0124	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0050	<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	<0.0050	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	---	0.0002	mg/kg	0.0760	9.71	0.148	0.0126	0.0009	
Sum of PF3xS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0744	9.12	0.148	0.0124	0.0009	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0749	9.62	0.148	0.0124	0.0009	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	94.0	Not Determined	177	94.5	136	
13C8-PFOA	---	0.0002	%	105	Not Determined	96.5	98.5	102	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0874_SD111_231012	0874_SD110_231012	0874_SD107_231012	0874_SD108_231012	0874_SD208_231012
Sampling date / time			12-Oct-2023 09:55	12-Oct-2023 10:15	12-Oct-2023 10:40	12-Oct-2023 11:02	12-Oct-2023 11:14	
Compound	CAS Number	LOR	Unit	ET2304975-069	ET2304975-071	ET2304975-073	ET2304975-075	ET2304975-077
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	---	0.1	%	59.4	64.6	45.5	29.8	35.9
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0026	0.0018	<0.0004	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0031	0.0022	0.0004	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0285	0.0235	0.0095	0.0003	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0016	0.0025	0.0007	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0906	0.134	0.0373	0.0030	0.0005
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<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	0.0012	<0.0004	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0068	0.0034	0.0010	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0006	0.0003	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0011	0.0011	0.0004	<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	0.0005	<0.0002	<0.0002	<0.0009
Perfluorotridecanoic acid (PFTriDA)	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	<0.0005
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	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD111_231012	0874_SD110_231012	0874_SD107_231012	0874_SD108_231012	0874_SD208_231012
Sampling date / time					12-Oct-2023 09:55	12-Oct-2023 10:15	12-Oct-2023 10:40	12-Oct-2023 11:02	12-Oct-2023 11:14
Compound	CAS Number	LOR	Unit	ET2304975-069	ET2304975-071	ET2304975-073	ET2304975-075	ET2304975-077	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.0010	<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	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<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	<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	0.136	0.170	0.0493	0.0033	0.0005	
Sum of PF3xS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.119	0.158	0.0468	0.0033	0.0005	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.131	0.164	0.0482	0.0033	0.0005	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	96.5	50.0	91.5	156	83.0	
13C8-PFOA	---	0.0002	%	112	97.0	96.0	127	99.5	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD109_231012	0874_QC110_231012	0874_SD116_231012	---	---
Sampling date / time					12-Oct-2023 11:33	12-Oct-2023 11:34	12-Oct-2023 11:47	---	---
Compound	CAS Number	LOR	Unit	ET2304975-080	ET2304975-081	ET2304975-083	-----	-----	
				Result	Result	Result	---	---	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	---	0.1	%	23.4	23.6	44.6	---	---	
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	0.0015	---	---	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0003	---	---	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0006	0.0008	0.0217	---	---	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<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	---	---	
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	0.0005	---	---	
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	0.0003	0.0003	0.0013	---	---	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	---	---	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	---	---	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	---	---	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	---	---	
Perfluorotridecanoic acid (PFTriDA)	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	0874_SD109_231012	0874_QC110_231012	0874_SD116_231012	---	---
Sampling date / time					12-Oct-2023 11:33	12-Oct-2023 11:34	12-Oct-2023 11:47	---	---
Compound	CAS Number	LOR	Unit	ET2304975-080	ET2304975-081	ET2304975-083	-----	-----	
				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	0.0009	0.0011	0.0253	---	---	
Sum of PF3ks and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0006	0.0008	0.0232	---	---	
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0009	0.0011	0.0250	---	---	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.0002	%	74.0	122	90.5	---	---	
13C8-PFOA	---	0.0002	%	108	101	104	---	---	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0874_SW201_231009	0874_SW129_231009	0874_SW127_231009	0874_QC103_231009	0874_SW017_231009
			Sampling date / time	09-Oct-2023 11:28	09-Oct-2023 11:30	09-Oct-2023 11:54	09-Oct-2023 11:57	09-Oct-2023 13:21
Compound	CAS Number	LOR	Unit	ET2304975-001	ET2304975-002	ET2304975-006	ET2304975-008	ET2304975-010
				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	0.02	0.02	0.02	0.04
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	0.03	0.02	0.02	0.06
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: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW201_231009	0874_SW129_231009	0874_SW127_231009	0874_QC103_231009	0874_SW017_231009
				Sampling date / time	09-Oct-2023 11:28	09-Oct-2023 11:30	09-Oct-2023 11:54	09-Oct-2023 11:57	09-Oct-2023 13:21
Compound	CAS Number	LOR	Unit	ET2304975-001	ET2304975-002	ET2304975-006	ET2304975-008	ET2304975-010	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.17	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.18	0.05	0.04	0.04	0.11	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.05	0.04	0.04	0.10	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.18	0.05	0.04	0.04	0.11	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	94.9	100	98.4	97.6	106	
13C8-PFOA	—	0.02	%	98.7	96.2	93.9	98.8	101	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW021_231009	0874_SW119_231009	0873_SW113_231009	0874_SW117_231009	0874_SW118_231009
Sampling date / time					09-Oct-2023 13:53	09-Oct-2023 14:28	09-Oct-2023 15:09	09-Oct-2023 15:23	09-Oct-2023 15:39
Compound	CAS Number	LOR	Unit	ET2304975-013	ET2304975-015	ET2304975-017	ET2304975-018	ET2304975-021	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	1.23	0.92	0.87	0.38	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	1.43	0.58	0.88	0.38	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	7.40	2.38	4.34	1.95	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.37	0.07	0.20	0.10	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	12.1	1.30	2.89	2.39	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.4	0.2	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.61	0.33	0.40	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	2.92	1.30	1.95	0.79	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.52	0.07	0.32	0.14	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	1.18	0.07	0.59	0.28	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.22	<0.05	<0.06	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.22	<0.05	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.22	<0.05	<0.06	<0.06	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW021_231009	0874_SW119_231009	0873_SW113_231009	0874_SW117_231009	0874_SW118_231009
Sampling date / time					09-Oct-2023 13:53	09-Oct-2023 14:28	09-Oct-2023 15:09	09-Oct-2023 15:23	09-Oct-2023 15:39
Compound	CAS Number	LOR	Unit	ET2304975-013	ET2304975-015	ET2304975-017	ET2304975-018	ET2304975-021	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.22	<0.05	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.22	<0.05	<0.06	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.09	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.09	<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	<0.09	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.09	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.09	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.09	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.04	27.8	7.22	12.6	6.56	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	19.5	3.68	7.23	4.34	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.04	26.0	6.57	11.6	6.08	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	99.7	99.7	99.1	92.4	98.4	
13C8-PFOA	—	0.02	%	99.4	99.1	97.4	96.6	101	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID		0884_QC302_231009	0874_SW112_231011	0874_SW014_231011	0874_SW010_231011	0874_SW132_231011
		Sampling date / time		09-Oct-2023 16:17	11-Oct-2023 09:34	11-Oct-2023 10:11	11-Oct-2023 11:05	11-Oct-2023 11:26
Compound	CAS Number	LOR	Unit	ET2304975-024	ET2304975-038	ET2304975-040	ET2304975-044	ET2304975-046
				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	<0.10	1.34
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	1.28
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.02	0.04	0.08	6.92
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.36
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.03	0.10	0.27	8.86
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.6
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.67
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.04	3.12
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.59
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.02	1.14
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.18
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.18
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.18



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0884_QC302_231009	0874_SW112_231011	0874_SW014_231011	0874_SW010_231011	0874_SW132_231011
				Sampling date / time	09-Oct-2023 16:17	11-Oct-2023 09:34	11-Oct-2023 10:11	11-Oct-2023 11:05	11-Oct-2023 11:26
Compound	CAS Number	LOR	Unit		ET2304975-024	ET2304975-038	ET2304975-040	ET2304975-044	ET2304975-046
				Result	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	<0.18
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.18
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.07
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.07
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	<0.07
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	<0.07
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	<0.07
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	<0.07
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	<0.01	0.05	0.14	0.41	0.41	24.3
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.05	0.14	0.35	0.35	15.8
Sum of PFAS (WA DER List)	—	0.01	µg/L	<0.01	0.05	0.14	0.41	0.41	22.6
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	96.5	104	96.9	106	106	109
13C8-PFOA	—	0.02	%	95.5	102	104	103	103	104



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0874_SW001_231011	0874_SW123_231011	0874_QC108_231011	0874_SW131_231011	0874_SW126_231011
			Sampling date / time	11-Oct-2023 11:32	11-Oct-2023 12:09	11-Oct-2023 12:12	11-Oct-2023 13:50	11-Oct-2023 14:07
Compound	CAS Number	LOR	Unit	ET2304975-048	ET2304975-051	ET2304975-052	ET2304975-056	ET2304975-058
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.39	2.00	1.96	0.22	0.65
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.48	1.90	1.73	0.20	0.59
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.33	12.4	12.2	1.38	3.15
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.20	1.00	0.90	0.06	0.19
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.29	62.8	39.0	1.29	5.65
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	<1.2	<1.2	<0.2	<0.3
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.19	1.29	1.31	0.12	0.29
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.84	6.35	5.96	0.54	1.31
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	0.60	0.54	0.05	0.12
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.27	1.27	1.29	0.08	0.25
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.52	<0.52	<0.06	<0.11
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.52	<0.52	<0.06	<0.11
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.52	<0.52	<0.06	<0.11



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW001_231011	0874_SW123_231011	0874_QC108_231011	0874_SW131_231011	0874_SW126_231011
				Sampling date / time	11-Oct-2023 11:32	11-Oct-2023 12:09	11-Oct-2023 12:12	11-Oct-2023 13:50	11-Oct-2023 14:07
Compound	CAS Number	LOR	Unit	ET2304975-048	ET2304975-051	ET2304975-052	ET2304975-056	ET2304975-058	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.52	<0.52	<0.06	<0.11	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.52	<0.52	<0.06	<0.11	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.21	<0.21	<0.02	<0.04	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.21	<0.21	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.21	<0.21	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.21	<0.21	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.21	<0.21	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	14.1	89.6	64.9	3.94	12.2	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.6	75.2	51.2	2.67	8.80	
Sum of PFAS (WA DER List)	—	0.01	µg/L	13.4	86.7	62.3	3.68	11.4	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	113	127	107	98.4	109	
13C8-PFOA	—	0.02	%	105	101	106	103	102	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW106_231011	0874_SW209_231011	0874_SW210_231012	0874_SW111_231012	0874_SW110_231012
Sampling date / time					11-Oct-2023 15:41	11-Oct-2023 16:06	12-Oct-2023 09:26	12-Oct-2023 09:55	12-Oct-2023 10:14
Compound	CAS Number	LOR	Unit	ET2304975-062	ET2304975-063	ET2304975-066	ET2304975-068	ET2304975-070	
				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	0.81	1.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.73	0.96	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.19	0.10	<0.01	4.11	5.38	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.11	0.13	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.67	0.12	<0.01	1.13	0.88	
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	<0.4	<0.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.43	0.51	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	2.20	3.12	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.15	0.24	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	<0.01	0.22	0.31	
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	<0.06	<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	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW106_231011	0874_SW209_231011	0874_SW210_231012	0874_SW111_231012	0874_SW110_231012
				Sampling date / time	11-Oct-2023 15:41	11-Oct-2023 16:06	12-Oct-2023 09:26	12-Oct-2023 09:55	12-Oct-2023 10:14
Compound	CAS Number	LOR	Unit	ET2304975-062	ET2304975-063	ET2304975-066	ET2304975-068	ET2304975-070	
				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	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<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	<0.05	<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	0.88	0.22	<0.01	9.89	12.6	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.86	0.22	<0.01	5.24	6.26	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.88	0.22	<0.01	9.05	11.5	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	101	116	102	97.7	116	
13C8-PFOA	—	0.02	%	105	106	105	103	98.8	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0874_SW107_231012	0874_SW108_231012	0874_SW208_231012	0874_SW109_231012	0874_QC109_231012
Sampling date / time			12-Oct-2023 10:40	12-Oct-2023 11:00	12-Oct-2023 11:14	12-Oct-2023 11:28	12-Oct-2023 11:30	
Compound	CAS Number	LOR	Unit	ET2304975-072	ET2304975-074	ET2304975-076	ET2304975-078	ET2304975-079
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	<0.02	<0.02	<0.04	<0.06
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.09	<0.02	<0.02	0.02	0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.51	0.04	0.01	0.11	0.10
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	0.13	0.02	0.01	0.11	0.12
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	<1.1	<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	0.16	0.02	<0.02	0.05	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	0.01	<0.01	<0.01	0.02	0.02
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: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW107_231012	0874_SW108_231012	0874_SW208_231012	0874_SW109_231012	0874_QC109_231012
				Sampling date / time	12-Oct-2023 10:40	12-Oct-2023 11:00	12-Oct-2023 11:14	12-Oct-2023 11:28	12-Oct-2023 11:30
Compound	CAS Number	LOR	Unit	ET2304975-072	ET2304975-074	ET2304975-076	ET2304975-078	ET2304975-079	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	1.01	0.08	0.02	0.31	0.31	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.64	0.06	0.02	0.22	0.22	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.92	0.08	0.02	0.29	0.29	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	121	115	114	113	124	
13C8-PFOA	—	0.02	%	99.8	98.7	97.6	99.8	98.5	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID		0874_SW116_231012	---	---	---	---
		Sampling date / time		12-Oct-2023 11:48	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2304975-082	-----	-----	-----	-----
				Result	---	---	---	---
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.10	---	---	---	---
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.09	---	---	---	---
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.47	---	---	---	---
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	---	---	---	---
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.49	---	---	---	---
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	0.20	---	---	---	---
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	---	---	---	---
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.08	---	---	---	---
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 (PFTTrDA)	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: SURFACE WATER (Matrix: WATER)		Sample ID			0874_SW116_231012	---	---	---	---
		Sampling date / time			12-Oct-2023 11:46	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2304975-082	-----	-----	-----	-----	-----
				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	1.52	---	---	---	---	---
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.96	---	---	---	---	---
Sum of PFAS (WA DER List)	---	0.01	µg/L	1.41	---	---	---	---	---
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.02	%	115	---	---	---	---	---
13C8-PFOA	---	0.02	%	101	---	---	---	---	---



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_QC304_231011	0874_QC501_231013	---	---	---
		Sampling date / time		11-Oct-2023 16:16	13-Oct-2023 14:16	---	---	---
Compound	CAS Number	LOR	Unit	ET2304975-065	ET2304975-085	-----	-----	-----
				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 (PFTriDA)	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	0874_QC304_231011	0874_QC501_231013	---	---	---
			Sampling date / time	11-Oct-2023 16:16	13-Oct-2023 14:16	---	---	---
Compound	CAS Number	LOR	Unit	ET2304975-065	ET2304975-085	-----	-----	-----
				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	%	140	112	---	---	---
13C8-PFOA	---	0.02	%	97.8	97.4	---	---	---



Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	65	140
13C8-PFOA	---	71	133

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	65	140
13C8-PFOA	---	71	133

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	76	136
13C8-PFOA	---	78	131

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	65	140
13C8-PFOA	---	71	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	65	140
13C8-PFOA	---	71	133



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231S: PFAS Surrogate

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(SOIL) EP231B: Perfluoroalkyl Carboxylic Acids

(SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(SOIL) EP231C: Perfluoroalkyl Sulfonamides

(SOIL) EP231A: Perfluoroalkyl Sulfonic Acids

(SOIL) EP231P: PFAS Sums

(SOIL) EP231S: PFAS Surrogate

(SOIL) EA055: Moisture Content (Dried @ 105-110°C)



QA/QC Compliance Assessment to assist with Quality Review

Work Order : ET2304975

Page : 1 of 16

Amendment : 3

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : MS [REDACTED]

Telephone : +61 7 3552 8616

Project : QLD_0874_PFASOMP_23

Date Samples Received : 17-Oct-2023

Site : QLD_0874

Issue Date : 16-Nov-2023

Sampler : [REDACTED]

No. of samples received : 85

Order number : 60612487_2.1

No. of samples analysed : 85

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.
- Duplicate outliers exist - please see following pages for full details.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

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	ET2304975-020	0874_SD118_231009	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	35.6 %	0% - 20%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	ET2304975-020	0874_SD118_231009	Perfluorohexanoic acid (PFHxA)	307-24-4	38.5 %	0% - 20%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	ET2304975-020	0874_SD118_231009	Perfluorooctanoic acid (PFOA)	335-67-1	52.5 %	0% - 20%	RPD exceeds LOR based limits
Laboratory Control Spike (LCS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-5374514-002	—	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	212 %	65.0-137%	Recovery greater than upper control limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-5374514-002	—	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	175 %	54.8-124%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2304975-053	0874_SD102_231011	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	ET2304975-053	0874_SD102_231011	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	—	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2304975-053	0874_SD102_231011	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	184 %	65.0-137%	Recovery greater than upper data quality objective
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2304975-053	0874_SD102_231011	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	142 %	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
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2304975-062	0874_SW106_231011	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	79.2 %	0% - 20%	RPD exceeds LOR based limits
EP231P: PFAS Sums	ET2304975-062	0874_SW106_231011	Sum of PFAS	—	66.2 %	0% - 20%	RPD exceeds LOR based limits
EP231P: PFAS Sums	ET2304975-062	0874_SW106_231011	Sum of PFHxS and PFOS	355-46-4/1763-23-1	67.2 %	0% - 20%	RPD exceeds LOR based limits
EP231P: PFAS Sums	ET2304975-062	0874_SW106_231011	Sum of PFAS (WA DER List)	—	66.2 %	0% - 20%	RPD exceeds LOR based limits

Matrix Spike (MS) Recoveries



Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP231B: Perfluoroalkyl Carboxylic Acids	ET2304975-044	0874_SW010_231011	Perfluorobutanoic acid (PFBA)	375-22-4	139 %	73.0-129%	Recovery greater than upper data quality objective

Regular Sample Surrogates

Sub-Matrix: **SEDIMENT**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP231S: PFAS Surrogate	ET2304975-061	0874_SD106_231011	13C4-PFOS	---	177 %	76.0-136 %	Recovery greater than upper data quality objective
EP231S: PFAS Surrogate	ET2304975-071	0874_SD110_231012	13C4-PFOS	---	50.0 %	76.0-136 %	Recovery less than lower data quality objective
EP231S: PFAS Surrogate	ET2304975-075	0874_SD108_231012	13C4-PFOS	---	156 %	76.0-136 %	Recovery greater than upper data quality objective
EP231S: PFAS Surrogate	ET2304975-080	0874_SD109_231012	13C4-PFOS	---	74.0 %	76.0-136 %	Recovery less than lower data quality objective
EP231S: PFAS Surrogate	ET2304975-050	0874_QC107_231011	13C8-PFOA	---	75.0 %	78.1-131 %	Recovery less than lower data quality objective

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method	4				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	57	7.02	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 as Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ■ = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							



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) 0874_SD201_231009, 0874_SD127_231009, 0874_SD120_231009, 0874_SD021_231009, 0874_SD113_231009, 0874_SD118_231009, 0874_QC104_231009	0874_SD129_231009, 0874_QC102_231009, 0874_SD017_231009, 0874_SD119_231009, 0874_SD117_231009, 0874_SD114_231009,	09-Oct-2023	---	---	---	20-Oct-2023	23-Oct-2023	✓
HDPE Soil Jar (EA055) 0874_SD112_231011, 0874_SD121_231011, 0874_SD132_231011, 0874_SD123_231011, 0874_SD102_231011, 0874_SD016_231011, 0874_SD126_231011, 0874_SD106_231011,	0874_SD014_231011, 0874_SD010_231011, 0874_SD001_231011, 0874_QC107_231011, 0874_SD013_231011, 0874_SD131_231011, 0874_SD125_231011, 0874_SD209_231011,	11-Oct-2023	---	---	---	20-Oct-2023	25-Oct-2023	✓
HDPE Soil Jar (EA055) 0874_SD210_231012, 0874_SD110_231012, 0874_SD108_231012, 0874_SD109_231012, 0874_SD116_231012	0874_SD111_231012, 0874_SD107_231012, 0874_SD208_231012, 0874_QC110_231012,	12-Oct-2023	---	---	---	20-Oct-2023	26-Oct-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	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD201_231009, 0874_SD127_231009, 0874_SD120_231009, 0874_SD021_231009, 0874_SD113_231009, 0874_SD118_231009, 0874_QC104_231009	0874_SD129_231009, 0874_QC102_231009, 0874_SD017_231009, 0874_SD119_231009, 0874_SD117_231009, 0874_SD114_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD112_231011, 0874_SD121_231011, 0874_SD132_231011, 0874_SD123_231011, 0874_SD102_231011, 0874_SD016_231011, 0874_SD126_231011, 0874_SD106_231011,	0874_SD014_231011, 0874_SD010_231011, 0874_SD001_231011, 0874_QC107_231011, 0874_SD013_231011, 0874_SD131_231011, 0874_SD125_231011, 0874_SD209_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD210_231012, 0874_SD110_231012, 0874_SD108_231012, 0874_SD109_231012, 0874_SD116_231012	0874_SD111_231012, 0874_SD107_231012, 0874_SD208_231012, 0874_QC110_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	26-Oct-2023	02-Dec-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	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD201_231009, 0874_SD127_231009, 0874_SD120_231009, 0874_SD021_231009, 0874_SD113_231009, 0874_SD118_231009, 0874_QC104_231009	0874_SD129_231009, 0874_QC102_231009, 0874_SD017_231009, 0874_SD119_231009, 0874_SD117_231009, 0874_SD114_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD112_231011, 0874_SD121_231011, 0874_SD132_231011, 0874_SD123_231011, 0874_SD102_231011, 0874_SD016_231011, 0874_SD126_231011, 0874_SD106_231011,	0874_SD014_231011, 0874_SD010_231011, 0874_SD001_231011, 0874_QC107_231011, 0874_SD013_231011, 0874_SD131_231011, 0874_SD125_231011, 0874_SD209_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD210_231012, 0874_SD110_231012, 0874_SD108_231012, 0874_SD109_231012, 0874_SD116_231012	0874_SD111_231012, 0874_SD107_231012, 0874_SD208_231012, 0874_QC110_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	26-Oct-2023	02-Dec-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	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD201_231009, 0874_SD127_231009, 0874_SD120_231009, 0874_SD021_231009, 0874_SD113_231009, 0874_SD118_231009, 0874_QC104_231009	0874_SD129_231009, 0874_QC102_231009, 0874_SD017_231009, 0874_SD119_231009, 0874_SD117_231009, 0874_SD114_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD112_231011, 0874_SD121_231011, 0874_SD132_231011, 0874_SD123_231011, 0874_SD102_231011, 0874_SD016_231011, 0874_SD126_231011, 0874_SD106_231011,	0874_SD014_231011, 0874_SD010_231011, 0874_SD001_231011, 0874_QC107_231011, 0874_SD013_231011, 0874_SD131_231011, 0874_SD125_231011, 0874_SD209_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD210_231012, 0874_SD110_231012, 0874_SD108_231012, 0874_SD109_231012, 0874_SD116_231012	0874_SD111_231012, 0874_SD107_231012, 0874_SD208_231012, 0874_QC110_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	26-Oct-2023	02-Dec-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) 0874_SD201_231009, 0874_SD127_231009, 0874_SD120_231009, 0874_SD021_231009, 0874_SD113_231009, 0874_SD118_231009, 0874_QC104_231009	0874_SD129_231009, 0874_QC102_231009, 0874_SD017_231009, 0874_SD119_231009, 0874_SD117_231009, 0874_SD114_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD112_231011, 0874_SD121_231011, 0874_SD132_231011, 0874_SD123_231011, 0874_SD102_231011, 0874_SD016_231011, 0874_SD126_231011, 0874_SD106_231011,	0874_SD014_231011, 0874_SD010_231011, 0874_SD001_231011, 0874_QC107_231011, 0874_SD013_231011, 0874_SD131_231011, 0874_SD125_231011, 0874_SD209_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD210_231012, 0874_SD110_231012, 0874_SD108_231012, 0874_SD109_231012, 0874_SD116_231012	0874_SD111_231012, 0874_SD107_231012, 0874_SD208_231012, 0874_QC110_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	26-Oct-2023	02-Dec-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	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD201_231009, 0874_SD127_231009, 0874_SD120_231009, 0874_SD021_231009, 0874_SD113_231009, 0874_SD118_231009, 0874_QC104_231009	0874_SD129_231009, 0874_QC102_231009, 0874_SD017_231009, 0874_SD119_231009, 0874_SD117_231009, 0874_SD114_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD112_231011, 0874_SD121_231011, 0874_SD132_231011, 0874_SD123_231011, 0874_SD102_231011, 0874_SD016_231011, 0874_SD126_231011, 0874_SD106_231011,	0874_SD014_231011, 0874_SD010_231011, 0874_SD001_231011, 0874_QC107_231011, 0874_SD013_231011, 0874_SD131_231011, 0874_SD125_231011, 0874_SD209_231011,	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	26-Oct-2023	02-Dec-2023	✓
HDPE Soil Jar (EP231X) 0874_SD210_231012, 0874_SD110_231012, 0874_SD108_231012, 0874_SD109_231012, 0874_SD116_231012	0874_SD111_231012, 0874_SD107_231012, 0874_SD208_231012, 0874_QC110_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	26-Oct-2023	02-Dec-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



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) 0874_SW201_231009, 0874_SW127_231009, 0874_SW017_231009, 0874_SW119_231009, 0874_SW117_231009, 0884_QC302_231009	0874_SW129_231009, 0874_QC103_231009, 0874_SW021_231009, 0873_SW113_231009, 0874_SW118_231009,	09-Oct-2023	24-Oct-2023	06-Apr-2024	✓	25-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW205_231010, 0874_QC105_231010, 0874_MW214_231010, 0874_MW217_231010,	0874_MW206_231010, 0874_MW212_231010, 0874_MW216_231010, 0874_QC106_231010	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW264_231010, 0874_MW218_231010, 0874_MW225_231010	0874_QC302_231010, 0874_MW221_231010,	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	26-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW112_231011, 0874_SW010_231011, 0874_SW001_231011, 0874_QC108_231011, 0874_SW126_231011, 0874_SW209_231011,	0874_SW014_231011, 0874_SW132_231011, 0874_SW123_231011, 0874_SW131_231011, 0874_SW106_231011, 0874_QC304_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	26-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW110_231012, 0874_SW108_231012, 0874_SW109_231012, 0874_SW116_231012	0874_SW107_231012, 0874_SW208_231012, 0874_QC109_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	24-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW210_231012,	0874_SW111_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	26-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_231013,	0874_QC501_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	24-Oct-2023	10-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) 0874_SW201_231009, 0874_SW127_231009, 0874_SW017_231009, 0874_SW119_231009, 0874_SW117_231009, 0884_QC302_231009	0874_SW129_231009, 0874_QC103_231009, 0874_SW021_231009, 0873_SW113_231009, 0874_SW118_231009,	09-Oct-2023	24-Oct-2023	06-Apr-2024	✓	25-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW205_231010, 0874_QC105_231010, 0874_MW214_231010, 0874_MW217_231010,	0874_MW206_231010, 0874_MW212_231010, 0874_MW216_231010, 0874_QC106_231010	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW264_231010, 0874_MW218_231010, 0874_MW225_231010	0874_QC302_231010, 0874_MW221_231010,	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	26-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW112_231011, 0874_SW010_231011, 0874_SW001_231011, 0874_QC108_231011, 0874_SW126_231011, 0874_SW209_231011,	0874_SW014_231011, 0874_SW132_231011, 0874_SW123_231011, 0874_SW131_231011, 0874_SW106_231011, 0874_QC304_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	26-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW110_231012, 0874_SW108_231012, 0874_SW109_231012, 0874_SW116_231012	0874_SW107_231012, 0874_SW208_231012, 0874_QC109_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	24-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW210_231012,	0874_SW111_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	26-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_231013,	0874_QC501_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	24-Oct-2023	10-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) 0874_SW201_231009, 0874_SW127_231009, 0874_SW017_231009, 0874_SW119_231009, 0874_SW117_231009, 0884_QC302_231009	0874_SW129_231009, 0874_QC103_231009, 0874_SW021_231009, 0873_SW113_231009, 0874_SW118_231009,	09-Oct-2023	24-Oct-2023	06-Apr-2024	✓	25-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW205_231010, 0874_QC105_231010, 0874_MW214_231010, 0874_MW217_231010,	0874_MW206_231010, 0874_MW212_231010, 0874_MW216_231010, 0874_QC106_231010	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW264_231010, 0874_MW218_231010, 0874_MW225_231010	0874_QC302_231010, 0874_MW221_231010,	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	26-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW112_231011, 0874_SW010_231011, 0874_SW001_231011, 0874_QC108_231011, 0874_SW126_231011, 0874_SW209_231011,	0874_SW014_231011, 0874_SW132_231011, 0874_SW123_231011, 0874_SW131_231011, 0874_SW106_231011, 0874_QC304_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	26-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW110_231012, 0874_SW108_231012, 0874_SW109_231012, 0874_SW116_231012	0874_SW107_231012, 0874_SW208_231012, 0874_QC109_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	24-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW210_231012,	0874_SW111_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	26-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_231013,	0874_QC501_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	24-Oct-2023	10-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) 0874_SW201_231009, 0874_SW127_231009, 0874_SW017_231009, 0874_SW119_231009, 0874_SW117_231009, 0884_QC302_231009	0874_SW129_231009, 0874_QC103_231009, 0874_SW021_231009, 0873_SW113_231009, 0874_SW118_231009,	09-Oct-2023	24-Oct-2023	06-Apr-2024	✓	25-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW205_231010, 0874_QC105_231010, 0874_MW214_231010, 0874_MW217_231010,	0874_MW206_231010, 0874_MW212_231010, 0874_MW216_231010, 0874_QC106_231010	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW264_231010, 0874_MW218_231010, 0874_MW225_231010	0874_QC302_231010, 0874_MW221_231010,	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	26-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW112_231011, 0874_SW010_231011, 0874_SW001_231011, 0874_QC108_231011, 0874_SW126_231011, 0874_SW209_231011,	0874_SW014_231011, 0874_SW132_231011, 0874_SW123_231011, 0874_SW131_231011, 0874_SW106_231011, 0874_QC304_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	26-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW110_231012, 0874_SW108_231012, 0874_SW109_231012, 0874_SW116_231012	0874_SW107_231012, 0874_SW208_231012, 0874_QC109_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	24-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW210_231012,	0874_SW111_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	26-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_231013,	0874_QC501_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	24-Oct-2023	10-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) 0874_SW201_231009, 0874_SW127_231009, 0874_SW017_231009, 0874_SW119_231009, 0874_SW117_231009, 0884_QC302_231009	0874_SW129_231009, 0874_QC103_231009, 0874_SW021_231009, 0873_SW113_231009, 0874_SW118_231009,	09-Oct-2023	24-Oct-2023	06-Apr-2024	✓	25-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW205_231010, 0874_QC105_231010, 0874_MW214_231010, 0874_MW217_231010,	0874_MW206_231010, 0874_MW212_231010, 0874_MW216_231010, 0874_QC106_231010	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW264_231010, 0874_MW218_231010, 0874_MW225_231010	0874_QC302_231010, 0874_MW221_231010,	10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	26-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW112_231011, 0874_SW010_231011, 0874_SW001_231011, 0874_QC108_231011, 0874_SW126_231011, 0874_SW209_231011,	0874_SW014_231011, 0874_SW132_231011, 0874_SW123_231011, 0874_SW131_231011, 0874_SW106_231011, 0874_QC304_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	26-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW110_231012, 0874_SW108_231012, 0874_SW109_231012, 0874_SW116_231012	0874_SW107_231012, 0874_SW208_231012, 0874_QC109_231012,	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	24-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW210_231012,	0874_SW111_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	26-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_231013,	0874_QC501_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	24-Oct-2023	10-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: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	57	7.02	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.



QUALITY CONTROL REPORT

Work Order : ET2304975
Amendment : 3

Page : 1 of 20

Client : AECOM AUSTRALIA PTY LTD
Contact : MS [REDACTED]
Address : LEVEL 5 7-13 TOMLINS STREET
SOUTH TOWNSVILLE 4810

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815

Telephone : —
Project : QLD_0874_PFASOMP_23
Order number : 60612487_2.1
C-O-C number : 58433
Sampler : [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 85
No. of samples analysed : 85

Telephone : +61 7 3552 8616
Date Samples Received : 17-Oct-2023
Date Analysis Commenced : 20-Oct-2023
Issue Date : 16-Nov-2023



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 Soil Preparation, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[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 NIEPM. 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/Concentration	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5374513)									
ET2304975-003	0874_SD201_231009	EA055: Moisture Content	---	0.1	%	24.7	24.7	0.0	0% - 20%
ET2304975-020	0874_SD118_231009	EA055: Moisture Content	---	0.1	%	66.2	63.9	3.6	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5374516)									
ET2304975-050	0874_QC107_231011	EA055: Moisture Content	---	0.1	%	22.3	22.5	1.1	0% - 20%
ET2304975-069	0874_SD111_231012	EA055: Moisture Content	---	0.1	%	59.4	59.3	0.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5374512)									
ET2304975-003	0874_SD201_231009	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	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2304975-020	0874_SD118_231009	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0019	0.0029	38.9	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0017	0.0027	42.8	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0178	# 0.0255	35.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0021	0.0032	40.8	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.129	0.158	19.6	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0006	<0.0011	58.8	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5374514)									
ET2304975-050	0874_QC107_231011	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0085	0.0105	20.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0169	0.0242	35.6	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.457	0.422	8.0	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0616	0.0504	20.0	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5374514) - continued									
ET2304975-050	0874_QC107_231011	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	1.50	1.52	1.2	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
ET2304975-069	0874_SD111_231012	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0026	0.0026	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0031	0.0025	20.3	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0285	0.0256	10.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0016	0.0017	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0906	0.0794	13.2	0% - 20%
		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: 5374512)									
ET2304975-003	0874_SD201_231009	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 (PFTriDA)	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
		ET2304975-020	0874_SD118_231009	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0008	0.0017
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.0002	mg/kg	0.0042	# 0.0062	38.5	0% - 20%
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.0002	mg/kg	0.0009	0.0016	56.7	No Limit
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.0002	mg/kg	0.0030	# 0.0051	52.5	0% - 20%
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 (PFTriDA)	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
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5374514)									
ET2304975-050	0874_QC107_231011	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0051	0.0041	20.7	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0303	0.0306	1.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0067	0.0073	9.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0364	0.0303	18.2	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0025	<0.0025	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: 5374514) - continued									
ET2304975-050	0874_QC107_231011	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0062	<0.0062	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.012	<0.012	0.0	No Limit
ET2304975-069	0874_SD111_231012	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0012	0.0011	15.6	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0068	0.0062	8.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0006	0.0005	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0011	0.0011	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: 5374512)									
ET2304975-003	0874_SD201_231009	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
ET2304975-020	0874_SD118_231009	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.0006	103	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 Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5374514)									
ET2304975-050	0874_QC107_231011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	2991-50-6	0.0002	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0062	<0.0062	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EiFOSA)	4151-50-2	0.0005	mg/kg	<0.0062	<0.0062	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0062	<0.0062	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	1691-99-2	0.0005	mg/kg	<0.0062	<0.0062	0.0	No Limit
ET2304975-069	0874_SD111_231012	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 (EiFOSAA)	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 (EiFOSA)	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 (EiFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5374512)									
ET2304975-003	0874_SD201_231009	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
ET2304975-020	0874_SD118_231009	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



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 (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5374512) - continued									
ET2304975-020	0874_SD118_231009	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5374514)									
ET2304975-050	0874_QC107_231011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0025	<0.0025	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0025	<0.0025	0.0	No Limit
ET2304975-069	0874_SD111_231012	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									
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: 5377987)									
ET2304975-010	0874_SW017_231009	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.05	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
ET2304975-025	0874_MW205_231010	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.03	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	0.03	54.4	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: 5378005)									
ET2304975-030	0874_MW264_231010	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.53	0.47	11.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.23	0.25	6.8	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.12	0.10	14.6	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: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5378005) - continued									
ET2304975-030	0874_MW264_231010	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2304975-062	0874_SW106_231011	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.19	0.18	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.67	# 1.55	79.2	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
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5377987)									
ET2304975-010	0874_SW017_231009	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 (PFTriDA)	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
		ET2304975-025	0874_MW205_231010	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01
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 (PFTriDA)	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: 5378005)									
ET2304975-030	0874_MW264_231010	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 (PFTriDA)	72629-94-8	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: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5378005) - continued									
ET2304975-030	0874_MW264_231010	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
ET2304975-062	0874_SW106_231011	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	<0.02	<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 (PFTriDA)	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: 5377987)									
ET2304975-010	0874_SW017_231009	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
ET2304975-025	0874_MW205_231010	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: 5378005)									



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Concentration	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5378005) - continued									
ET2304975-030	0874_MW264_231010	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 (EiFOSAA)	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 (EiFOSA)	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 (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2304975-062	0874_SW106_231011	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 (EiFOSAA)	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 (EiFOSA)	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 (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5377987)									
ET2304975-010	0874_SW017_231009	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
ET2304975-025	0874_MW205_231010	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



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Comment	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5377987) - continued									
ET2304975-025	0874_MW205_231010	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: 5378005)									
ET2304975-030	0874_MW264_231010	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
ET2304975-062	0874_SW106_231011	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: 5377987)									
ET2304975-010	0874_SW017_231009	EP231X: Sum of PFAS	---	0.01	µg/L	0.11	0.08	31.6	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	0.08	22.2	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.11	0.08	31.6	0% - 50%
ET2304975-025	0874_MW205_231010	EP231X: Sum of PFAS	---	0.01	µg/L	0.03	0.06	66.7	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.03	0.06	66.7	No Limit
EP231P: PFAS Sums (QC Lot: 5378005)									
ET2304975-030	0874_MW264_231010	EP231X: Sum of PFAS	---	0.01	µg/L	0.91	0.85	6.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.56	0.50	11.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.79	0.75	5.2	0% - 20%
ET2304975-062	0874_SW106_231011	EP231X: Sum of PFAS	---	0.01	µg/L	0.88	# 1.75	66.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.86	# 1.73	67.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.88	# 1.75	66.2	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			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5374512)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	104	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	106	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	97.9	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	98.7	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	104	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	87.5	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5374514)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	105	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	102	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	106	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	93.7	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	118	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	100	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5374512)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	99.3	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.2	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	64.0	136
EP231X: Perfluorododecanoic acid (PFDDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	69.0	135
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.0	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	105	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5374514)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	98.8	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	71.0	131



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LDR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report			
				Report	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				Result			LCS	Low
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5374514) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	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	116	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	69.0	135
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.6	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5374512)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	92.6	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	89.3	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.1	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.0	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.6	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5374514)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	96.8	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.4	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.8	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5374512)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	91.4	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	98.3	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	76.2	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	66.2	54.8	124



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
								Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5374514)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	93.6	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	88.6	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	# 212	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	# 175	54.8	124	

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
								Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377987)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	119	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	112	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	107	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	108	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	100	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5378005)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	107	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	118	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	107	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	107	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	122	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	117	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5378008)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	99.9	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	92.5	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	111	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	114	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	109	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377987)									
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	115	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	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	108	71.0	133	



Sub-Matrix: **WATER**

Method/Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377987) - continued									
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	105	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	111	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	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	108	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5378005)									
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)	2706-50-3	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	130	
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	119	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	117	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	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	114	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5378008)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.0	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-50-3	0.02	µg/L	<0.02	0.25 µg/L	92.6	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	96.8	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	98.6	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	101	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.0	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.7	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377987)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	115	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	115	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	



Sub-Matrix: **WATER**

Method/Compound	CAS Number	LDR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377987) - continued									
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 (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	107	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.6	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	111	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5378005)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	114	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	121	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EiFOSA)	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	105	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	100	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	107	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5378008)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	98.7	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EiFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.1	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	94.2	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	91.8	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	99.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	100	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377987)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	112	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	112	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	100	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5378005)									



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report			
				Report	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				Result			LCS	Low
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5378005) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4.2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	137	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	116	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	103	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	123	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5378008)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4.2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	114	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	93.1	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	105	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	91.3	64.2	133
EP231P: PFAS Sums (QCLot: 5377987)								
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: 5378005)								
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: 5378008)								
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	Spike/Recovery(%)	Acceptable Limits (%)	
						MS	Low
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5374512)							
ET2304975-004	0874_SD129_231009	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	106	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	107	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	93.2	67.0	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report					
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5374512) - continued									
ET2304975-004	0874_SD129_231009	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	90.8	70.0	132		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	116	68.0	136		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	102	59.0	134		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5374514)									
ET2304975-053	0874_SD102_231011	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	104	72.0	128		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	103	73.0	123		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	# Not Determined	67.0	130		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	106	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	92.9	59.0	134		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5374512)									
ET2304975-004	0874_SD129_231009	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	108	71.0	135		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	119	69.0	132		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	102	70.0	132		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	107	71.0	131		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	114	69.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	126	72.0	129		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	116	69.0	133		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	113	64.0	136		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	104	66.0	139		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	97.1	69.0	133		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5374514)									
ET2304975-053	0874_SD102_231011	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	107	71.0	135		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	120	69.0	132		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	114	70.0	132		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	112	71.0	131		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	119	69.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	89.6	72.0	129		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	112	69.0	133		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	94.4	64.0	136		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	107	69.0	135		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	69.6	66.0	139		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	99.2	69.0	133		
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5374512)							
		ET2304975-004	0874_SD129_231009	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	104	48.0	128



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5374512) - continued							
ET2304975-004	0874_SD129_231009	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	101	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	95.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	116	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	90.8	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	102	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5374514)							
ET2304975-053	0874_SD102_231011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	100	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	109	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	85.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	106	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	103	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	86.4	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	96.8	61.0	139
EP231D: (n-2) Fluorotelomer Sulfonic Acids (QCLot: 5374512)							
ET2304975-004	0874_SD129_231009	EP231X: 4.2 Fluorotelomer sulfonic acid (4.2 FTS)	757124-72-4	0.00117 mg/kg	117	62.0	145
		EP231X: 6.2 Fluorotelomer sulfonic acid (6.2 FTS)	27619-97-2	0.00118 mg/kg	93.2	64.0	140
		EP231X: 8.2 Fluorotelomer sulfonic acid (8.2 FTS)	39108-34-4	0.0012 mg/kg	80.0	65.0	137
		EP231X: 10.2 Fluorotelomer sulfonic acid (10.2 FTS)	120226-60-0	0.0012 mg/kg	86.2	70.0	130
EP231D: (n-2) Fluorotelomer Sulfonic Acids (QCLot: 5374514)							
ET2304975-053	0874_SD102_231011	EP231X: 4.2 Fluorotelomer sulfonic acid (4.2 FTS)	757124-72-4	0.00117 mg/kg	81.6	62.0	145
		EP231X: 6.2 Fluorotelomer sulfonic acid (6.2 FTS)	27619-97-2	0.00118 mg/kg	87.7	64.0	140
		EP231X: 8.2 Fluorotelomer sulfonic acid (8.2 FTS)	39108-34-4	0.0012 mg/kg	# 184	65.0	137
		EP231X: 10.2 Fluorotelomer sulfonic acid (10.2 FTS)	120226-60-0	0.0012 mg/kg	# 142	70.0	130
Sub-Matrix: WATER				Matrix Spike (MS) Report			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	SpikeRecovery(%) MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377987)							



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377987) - continued							
ET2304975-018	0874_SW117_231009	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	105	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	111	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	101	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	126	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	89.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5378005)							
ET2304975-044	0874_SW010_231011	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	77.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	110	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	113	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	99.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	140	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	138	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377987)							
ET2304975-018	0874_SW117_231009	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	92.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	98.3	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	93.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	94.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	109	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	102	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	98.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.25 µg/L	94.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	89.5	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5378005)					
ET2304975-044	0874_SW010_231011	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 139	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	112	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	124	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	128	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	115	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	121	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	129	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	131	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	125	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.25 µg/L	137	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	125	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377987)					



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method/Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377987) - continued							
ET2304975-018	0874_SW117_231009	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.2	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	85.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	96.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	91.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	99.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5378005)							
ET2304975-044	0874_SW010_231011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	130	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	117	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	115	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	128	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	116	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	121	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	117	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377987)							
ET2304975-018	0874_SW117_231009	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	99.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	94.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	102	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	86.1	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5378005)							
ET2304975-044	0874_SW010_231011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	136	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	107	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	117	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2304975

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]@aecom.com	E-mail	: [REDACTED]@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8616
Facsimile	: ----	Facsimile	:
Project	: QLD_0874_PFASOMP_23	Page	: 1 of 6
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 58433	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED] [REDACTED]		

Dates

Date Samples Received	: 17-Oct-2023 08:00	Issue Date	: 19-Oct-2023
Client Requested Due Date	: 26-Oct-2023	Scheduled Reporting Date	: 26-Oct-2023

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 4	Temperature	: 2.1, 2.5, 1.7, 3.7°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 85 / 85

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
- ***Samples were originally received by ALS Townsville on 13/10/23, and forwarded to ALS Brisbane for analysis.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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 - E4055-103 Moisture Content	SOIL - E4201X (solids) PTAS - Full Suite (28 analytes)
ET2304975-003	09-Oct-2023 11:31	0874_SD201_231009	✓	✓
ET2304975-004	09-Oct-2023 11:32	0874_SD129_231009	✓	✓
ET2304975-005	09-Oct-2023 11:53	0874_SD127_231009	✓	✓
ET2304975-007	09-Oct-2023 11:56	0874_QC102_231009	✓	✓
ET2304975-009	09-Oct-2023 13:07	0874_SD120_231009	✓	✓
ET2304975-011	09-Oct-2023 13:22	0874_SD017_231009	✓	✓
ET2304975-012	09-Oct-2023 13:52	0874_SD021_231009	✓	✓
ET2304975-014	09-Oct-2023 14:27	0874_SD119_231009	✓	✓
ET2304975-016	09-Oct-2023 15:08	0874_SD113_231009	✓	✓
ET2304975-019	09-Oct-2023 15:24	0874_SD117_231009	✓	✓
ET2304975-020	09-Oct-2023 15:38	0874_SD118_231009	✓	✓
ET2304975-022	09-Oct-2023 15:59	0874_SD114_231009	✓	✓
ET2304975-023	09-Oct-2023 16:00	0874_QC104_231009	✓	✓
ET2304975-039	11-Oct-2023 09:35	0874_SD112_231011	✓	✓
ET2304975-041	11-Oct-2023 10:12	0874_SD014_231011	✓	✓
ET2304975-042	11-Oct-2023 10:40	0874_SD121_231011	✓	✓
ET2304975-043	11-Oct-2023 11:04	0874_SD010_231011	✓	✓
ET2304975-045	11-Oct-2023 11:25	0874_SD132_231011	✓	✓
ET2304975-047	11-Oct-2023 11:31	0874_SD001_231011	✓	✓
ET2304975-049	11-Oct-2023 12:08	0874_SD123_231011	✓	✓
ET2304975-050	11-Oct-2023 12:08	0874_QC107_231011	✓	✓
ET2304975-053	11-Oct-2023 12:39	0874_SD102_231011	✓	✓
ET2304975-054	11-Oct-2023 13:13	0874_SD013_231011	✓	✓
ET2304975-055	11-Oct-2023 13:20	0874_SD016_231011	✓	✓
ET2304975-057	11-Oct-2023 13:53	0874_SD131_231011	✓	✓
ET2304975-059	11-Oct-2023 14:07	0874_SD126_231011	✓	✓
ET2304975-060	11-Oct-2023 15:04	0874_SD125_231011	✓	✓
ET2304975-061	11-Oct-2023 15:40	0874_SD106_231011	✓	✓
ET2304975-064	11-Oct-2023 16:08	0874_SD209_231011	✓	✓
ET2304975-067	12-Oct-2023 09:27	0874_SD210_231012	✓	✓
ET2304975-069	12-Oct-2023 09:55	0874_SD111_231012	✓	✓
ET2304975-071	12-Oct-2023 10:15	0874_SD110_231012	✓	✓
ET2304975-073	12-Oct-2023 10:40	0874_SD107_231012	✓	✓
ET2304975-075	12-Oct-2023 11:02	0874_SD108_231012	✓	✓
ET2304975-077	12-Oct-2023 11:14	0874_SD208_231012	✓	✓



			SOIL - EA055-103 Moisture Content	SOIL - EP231X (solid) PFAS - Full Suite (28 analytes)
ET2304975-080	12-Oct-2023 11:33	0874_SD109_231012	✓	✓
ET2304975-081	12-Oct-2023 11:34	0874_QC110_231012	✓	✓
ET2304975-083	12-Oct-2023 11:47	0874_SD116_231012	✓	✓

Matrix: WATER

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2304975-001	09-Oct-2023 11:28	0874_SW201_231009	✓
ET2304975-002	09-Oct-2023 11:30	0874_SW129_231009	✓
ET2304975-006	09-Oct-2023 11:54	0874_SW127_231009	✓
ET2304975-008	09-Oct-2023 11:57	0874_QC103_231009	✓
ET2304975-010	09-Oct-2023 13:21	0874_SW017_231009	✓
ET2304975-013	09-Oct-2023 13:53	0874_SW021_231009	✓
ET2304975-015	09-Oct-2023 14:28	0874_SW119_231009	✓
ET2304975-017	09-Oct-2023 15:09	0873_SW113_231009	✓
ET2304975-018	09-Oct-2023 15:23	0874_SW117_231009	✓
ET2304975-021	09-Oct-2023 15:39	0874_SW118_231009	✓
ET2304975-024	09-Oct-2023 16:17	0884_QC302_231009	✓
ET2304975-025	10-Oct-2023 09:25	0874_MW205_231010	✓
ET2304975-026	10-Oct-2023 09:48	0874_MW206_231010	✓
ET2304975-027	10-Oct-2023 09:49	0874_QC105_231010	✓
ET2304975-028	10-Oct-2023 10:10	0874_MW212_231010	✓
ET2304975-029	10-Oct-2023 10:35	0874_MW214_231010	✓
ET2304975-030	10-Oct-2023 11:39	0874_MW264_231010	✓
ET2304975-031	10-Oct-2023 11:57	0874_MW216_231010	✓
ET2304975-032	10-Oct-2023 12:39	0874_MW217_231010	✓
ET2304975-033	10-Oct-2023 12:40	0874_QC106_231010	✓
ET2304975-034	10-Oct-2023 12:51	0874_QC302_231010	✓
ET2304975-035	10-Oct-2023 14:07	0874_MW218_231010	✓
ET2304975-036	10-Oct-2023 14:39	0874_MW212_231010	✓
ET2304975-037	10-Oct-2023 14:57	0874_MW225_231010	✓
ET2304975-038	11-Oct-2023 09:34	0874_SW112_231011	✓
ET2304975-040	11-Oct-2023 10:11	0874_SW014_231011	✓



WATER - EP231X
FFAS - Full Suite (28 analytes)

ET2304975-044	11-Oct-2023 11:05	0874_SW010_231011	✓
ET2304975-046	11-Oct-2023 11:26	0874_SW132_231011	✓
ET2304975-048	11-Oct-2023 11:32	0874_SW001_231011	✓
ET2304975-051	11-Oct-2023 12:09	0874_SW123_231011	✓
ET2304975-052	11-Oct-2023 12:12	0874_QC108_231011	✓
ET2304975-056	11-Oct-2023 13:50	0874_SW131_231011	✓
ET2304975-058	11-Oct-2023 14:07	0874_SW126_231011	✓
ET2304975-062	11-Oct-2023 15:41	0874_SW106_231011	✓
ET2304975-063	11-Oct-2023 16:06	0874_SW209_231011	✓
ET2304975-065	11-Oct-2023 16:16	0874_QC304_231011	✓
ET2304975-066	12-Oct-2023 09:26	0874_SW210_231012	✓
ET2304975-068	12-Oct-2023 09:55	0874_SW111_231012	✓
ET2304975-070	12-Oct-2023 10:14	0874_SW110_231012	✓
ET2304975-072	12-Oct-2023 10:40	0874_SW107_231012	✓
ET2304975-074	12-Oct-2023 11:00	0874_SW108_231012	✓
ET2304975-076	12-Oct-2023 11:14	0874_SW208_231012	✓
ET2304975-078	12-Oct-2023 11:28	0874_SW109_231012	✓
ET2304975-079	12-Oct-2023 11:30	0874_QC109_231012	✓
ET2304975-082	12-Oct-2023 11:46	0874_SW116_231012	✓
ET2304975-084	13-Oct-2023 09:21	0874_MW267_231013	✓
ET2304975-085	13-Oct-2023 14:16	0874_QC501_231013	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(SOIL) EP231B: Perfluoroalkyl Carboxylic Acids

(SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(SOIL) EP231C: Perfluoroalkyl Sulfonamides

(SOIL) EP231A: Perfluoroalkyl Sulfonic Acids

(SOIL) EP231P: PFAS Sums

(SOIL) EA055: Moisture Content (Dried @ 105-110°C)



CERTIFICATE OF ANALYSIS

Work Order : **ET2304991**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : LEVEL 5 7-13 TOMLINS STREET
 SOUTH TOWNSVILLE 4810
Telephone : ----
Project : QLD_0874_PFASOMP_23
Order number : 60612487_2.1
C-O-C number : 58363
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 85
No. of samples analysed : 84

Page : 1 of 37
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : +61 7 3552 8616
Date Samples Received : 17-Oct-2023 08:00
Date Analysis Commenced : 20-Oct-2023
Issue Date : 27-Oct-2023 17:46



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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Samples required dilution prior to extraction due to the presence of high level contaminants. LOR values have been adjusted accordingly. Particular LOR's have been raised further due to matrix interferences.
- EP231X - PFAS: Particular samples required dilution prior to extraction due to the presence of high-level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: The LOR for PFBS has been raised in sample '0874_MW136_231010' (ET2304991-028) due to matrix interference.
- 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.
- 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, PFTiDA 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	0874_MW118_231009	0874_MW140_231009	0874_MW142_231009	0874_MW250_231009	0874_MW251_231009
Sampling date / time			09-Oct-2023 08:20	09-Oct-2023 08:37	09-Oct-2023 09:06	09-Oct-2023 09:28	09-Oct-2023 09:44	
Compound	CAS Number	LOR	Unit	ET2304991-001	ET2304991-002	ET2304991-003	ET2304991-004	ET2304991-005
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.06	<0.02	<0.02	0.79	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.35	<0.02	<0.02	0.48	0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.72	<0.01	0.03	2.94	0.18
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	<0.02	<0.02	0.10	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.63	<0.01	<0.02	2.30	0.13
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	0.5	<0.1	<0.1	0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.37	<0.02	<0.02	0.20	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.62	<0.02	<0.02	0.80	0.04
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.10	<0.02	<0.02	0.06	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.12	<0.01	<0.01	0.11	<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	0874_MW118_231009	0874_MW140_231009	0874_MW142_231009	0874_MW260_231009	0874_MW251_231009
Sampling date / time					09-Oct-2023 08:20	09-Oct-2023 08:37	09-Oct-2023 09:06	09-Oct-2023 09:28	09-Oct-2023 09:44
Compound	CAS Number	LOR	Unit	ET2304991-001	ET2304991-002	ET2304991-003	ET2304991-004	ET2304991-005	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	5.50	<0.01	0.03	7.88	0.37	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.35	<0.01	0.03	5.24	0.31	
Sum of PFAS (WA DER List)	—	0.01	µg/L	5.12	<0.01	0.03	7.30	0.35	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	97.7	117	101	118	99.4	
13C8-PFOA	—	0.02	%	96.7	97.0	99.0	92.9	92.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_QC150_231009	0874_MW112_231009	0874_MW057_231009	0874_QC350_231009	0874_MW300_231010
		Sampling date / time		09-Oct-2023 09:45	09-Oct-2023 15:28	09-Oct-2023 16:11	09-Oct-2023 16:16	10-Oct-2023 09:07
Compound	CAS Number	LOR	Unit	ET2304991-006	ET2304991-007	ET2304991-008	ET2304991-009	ET2304991-010
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	1.65	0.92	<0.02	0.09
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	1.99	0.90	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.16	17.0	4.71	<0.01	0.14
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.72	0.16	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.14	17.8	2.04	<0.01	0.16
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.4	0.2	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	1.10	0.48	<0.02	0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	6.01	2.00	<0.02	0.03
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.50	0.11	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.84	0.12	<0.01	0.04
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.15	<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	<0.15	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.15	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC150_231009	0874_MW112_231009	0874_MW057_231009	0874_QC350_231009	0874_MW300_231010
Sampling date / time					09-Oct-2023 09:45	09-Oct-2023 15:28	09-Oct-2023 16:11	09-Oct-2023 16:16	10-Oct-2023 09:07
Compound	CAS Number	LOR	Unit	ET2304991-006	ET2304991-007	ET2304991-008	ET2304991-009	ET2304991-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.06	<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	<0.06	<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	<0.06	<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	<0.06	<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	<0.06	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.33	48.0	11.6	<0.01	0.48	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.30	34.8	6.75	<0.01	0.30	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.33	45.3	10.6	<0.01	0.48	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	92.8	101	100	111	97.1	
13C8-PFOA	—	0.02	%	94.3	97.2	94.5	92.4	98.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW002_231010	0874_MW004_231010	0874_MW241_231010	0874_MW135_231010	0874_MW056_231010
Sampling date / time					10-Oct-2023 10:03	10-Oct-2023 10:05	10-Oct-2023 10:05	10-Oct-2023 10:12	10-Oct-2023 10:26
Compound	CAS Number	LOR	Unit	ET2304991-011	ET2304991-012	ET2304991-013	ET2304991-014	ET2304991-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.36	0.02	0.32	0.63	0.90	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.36	<0.02	0.26	0.64	0.68	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.66	0.05	1.54	3.57	2.21	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.15	<0.02	0.03	0.04	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.27	0.09	0.24	0.17	0.08	
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	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	<0.02	0.06	0.13	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.17	<0.02	0.21	0.62	0.52	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	<0.02	<0.02	<0.04	<0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.23	<0.01	0.02	0.03	0.03	
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	0874_MW002_231010	0874_MW004_231010	0874_MW241_231010	0874_MW135_231010	0874_MW056_231010
Sampling date / time					10-Oct-2023 10:03	10-Oct-2023 10:05	10-Oct-2023 10:05	10-Oct-2023 10:12	10-Oct-2023 10:26
Compound	CAS Number	LOR	Unit	ET2304991-011	ET2304991-012	ET2304991-013	ET2304991-014	ET2304991-015	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	9.65	0.16	2.78	5.83	4.77	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.93	0.14	1.78	3.74	2.29	
Sum of PFAS (WA DER List)	—	0.01	µg/L	9.14	0.16	2.49	5.15	4.09	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	89.1	95.1	89.5	95.3	131	
13C8-PFOA	—	0.02	%	90.7	96.9	101	99.0	98.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_MW114_231010	0874_MW009_231010	0874_QC151_231010	0874_MW247_231010	0874_MW232_231010
		Sampling date / time		10-Oct-2023 10:36	10-Oct-2023 11:11	10-Oct-2023 11:12	10-Oct-2023 11:13	10-Oct-2023 11:28
Compound	CAS Number	LOR	Unit	ET2304991-016	ET2304991-017	ET2304991-018	ET2304991-019	ET2304991-020
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.83	1.87	1.93	<0.92	0.76
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.76	2.30	2.20	1.21	0.88
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	6.04	16.7	15.7	13.6	5.96
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.55	1.38	1.28	1.12	0.43
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	26.5	42.3	33.2	64.3	15.2
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.3	0.5	0.5	<1.2	<0.2
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.35	0.91	0.86	0.40	0.28
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.55	5.10	4.98	3.93	1.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.20	0.62	0.67	0.40	0.18
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.66	2.28	2.23	1.64	0.42
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.15	<0.06	<0.10	<0.60	<0.12
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.06	<0.16	<0.14	<0.30	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.15	<0.06	<0.10	<0.60	<0.12
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.15	<0.06	<0.10	<0.60	<0.12



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW114_231010	0874_MW009_231010	0874_QC151_231010	0874_MW247_231010	0874_MW232_231010
Sampling date / time					10-Oct-2023 10:36	10-Oct-2023 11:11	10-Oct-2023 11:12	10-Oct-2023 11:13	10-Oct-2023 11:28
Compound	CAS Number	LOR	Unit	ET2304991-016	ET2304991-017	ET2304991-018	ET2304991-019	ET2304991-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.15	<0.06	<0.10	<0.60	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.15	<0.06	<0.10	<0.60	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.06	<0.02	<0.04	<0.24	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.06	<0.05	<0.05	<0.24	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.24	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.06	<0.05	<0.05	<0.24	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.06	<0.05	<0.05	<0.24	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	37.4	74.0	63.6	86.6	25.1	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	32.5	59.0	48.9	77.9	21.2	
Sum of PFAS (WA DER List)	—	0.01	µg/L	36.1	70.3	60.1	84.3	23.8	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	101	125	101	107	106	
13C8-PFOA	—	0.02	%	98.9	97.3	96.5	95.0	99.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW063_231010	0874_MW120_231010	0874_MW026_231010	0874_MW034_231010	0874_MW033_231010
Sampling date / time					10-Oct-2023 11:42	10-Oct-2023 12:04	10-Oct-2023 12:15	10-Oct-2023 12:32	10-Oct-2023 12:40
Compound	CAS Number	LOR	Unit	ET2304991-021	ET2304991-022	ET2304991-023	ET2304991-024	ET2304991-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.46	1.02	<0.06	5.01	0.64	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.84	1.06	<0.05	3.94	0.82	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	13.3	7.24	0.83	12.5	6.84	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.90	0.40	0.08	0.49	0.53	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	25.1	9.87	5.47	2.78	14.6	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.2	<0.2	0.6	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.88	0.43	<0.05	0.93	0.88	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.88	2.04	0.18	3.82	2.18	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.56	0.26	<0.05	0.34	0.72	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.10	0.61	0.09	0.39	1.27	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	<0.12	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.13	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	<0.12	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	<0.12	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW063_231010	0874_MW120_231010	0874_MW026_231010	0874_MW034_231010	0874_MW033_231010
Sampling date / time					10-Oct-2023 11:42	10-Oct-2023 12:04	10-Oct-2023 12:15	10-Oct-2023 12:32	10-Oct-2023 12:40
Compound	CAS Number	LOR	Unit	ET2304991-021	ET2304991-022	ET2304991-023	ET2304991-024	ET2304991-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	<0.12	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	<0.12	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	<0.05	<0.02	<0.05	
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	0.08	<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	49.3	22.9	6.65	30.8	28.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	38.4	17.1	6.30	15.3	21.4	
Sum of PFAS (WA DER List)	—	0.01	µg/L	46.6	21.5	6.57	26.4	27.1	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	102	107	99.5	104	100	
13C8-PFOA	—	0.02	%	96.8	99.3	97.5	102	99.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW046_231010	0874_MW055_231010	0874_MW136_231010	0874_QC351_231010	0874_QC152_231010
Sampling date / time					10-Oct-2023 13:50	10-Oct-2023 14:03	10-Oct-2023 14:33	10-Oct-2023 15:11	10-Oct-2023 15:15
Compound	CAS Number	LOR	Unit	ET2304991-026	ET2304991-027	ET2304991-028	ET2304991-029	ET2304991-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	5.20	6.00	<0.06	<0.02	5.80	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	10.0	<5.00	0.04	<0.02	6.85	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	150	43.0	0.34	<0.01	46.9	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	9.45	<5.00	<0.02	<0.02	2.55	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	111	107	0.45	<0.01	106	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<2.5	<25.0	<0.1	<0.1	<2.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	4.55	<5.00	0.04	<0.02	3.25	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	41.6	15.0	0.07	<0.02	15.8	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	2.65	<5.00	<0.02	<0.02	1.85	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	7.70	<5.00	0.01	<0.01	5.65	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<12.5	<0.05	<0.05	<1.25	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<12.5	<0.05	<0.05	<1.25	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<12.5	<0.05	<0.05	<1.25	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW046_231010	0874_MW055_231010	0874_MW136_231010	0874_QC351_231010	0874_QC152_231010
Sampling date / time					10-Oct-2023 13:50	10-Oct-2023 14:03	10-Oct-2023 14:33	10-Oct-2023 15:11	10-Oct-2023 15:15
Compound	CAS Number	LOR	Unit	ET2304991-026	ET2304991-027	ET2304991-028	ET2304991-029	ET2304991-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<12.5	<0.05	<0.05	<1.25	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<12.5	<0.05	<0.05	<1.25	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<5.00	<0.02	<0.02	<0.50	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<5.00	<0.05	<0.05	<0.50	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.50	<5.00	<0.05	<0.05	<0.50	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<5.00	<0.05	<0.05	<0.50	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<5.00	<0.05	<0.05	<0.50	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	342	171	0.95	<0.01	195	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	261	150	0.79	<0.01	153	
Sum of PFAS (WA DER List)	—	0.01	µg/L	323	171	0.91	<0.01	185	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	99.6	100	81.5	105	101	
13C8-PFOA	—	0.02	%	98.1	101	96.1	102	99.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_MW242_231011	0874_MW122_231011	0874_MW246_231011	0874_MW245_231011	0874_MW081_231011
Sampling date / time			11-Oct-2023 09:56	11-Oct-2023 10:17	11-Oct-2023 10:44	11-Oct-2023 11:09	11-Oct-2023 11:22	
Compound	CAS Number	LOR	Unit	ET2304991-031	ET2304991-032	ET2304991-033	ET2304991-034	ET2304991-035
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.12	0.02	0.04	8.08	76.5
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.09	<0.02	0.04	9.98	114
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.66	0.04	0.26	54.3	1760
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	<0.02	3.28	164
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.35	<0.01	0.40	26.2	1710
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	1.2	<25.0
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	<0.02	<0.02	4.20	29.0
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	<0.02	0.09	20.3	234
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	3.20	32.0
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	<0.01	0.01	4.38	91.0
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<12.5
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<12.5
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<12.5



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW242_231011	0874_MW122_231011	0874_MW246_231011	0874_MW245_231011	0874_MW081_231011
				Sampling date / time	11-Oct-2023 09:56	11-Oct-2023 10:17	11-Oct-2023 10:44	11-Oct-2023 11:09	11-Oct-2023 11:22
Compound	CAS Number	LOR	Unit	ET2304991-031	ET2304991-032	ET2304991-033	ET2304991-034	ET2304991-035	
				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	<0.62	<12.5	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<12.5	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<5.00	
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	<0.25	<5.00	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<5.00	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.35	<5.00	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<5.00	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	1.42	0.06	0.84	135	4210	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.01	0.04	0.66	80.5	3470	
Sum of PFAS (WA DER List)	—	0.01	µg/L	1.31	0.06	0.80	122	3930	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	101	102	101	101	100	
13C8-PFOA	—	0.02	%	105	99.6	103	100	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_QC153_231011	0874_MW090_231011	0874_MW005_231011	0874_MW054_231011	0874_MW109_231011
Sampling date / time			11-Oct-2023 11:23	11-Oct-2023 11:43	11-Oct-2023 11:58	11-Oct-2023 12:21	11-Oct-2023 12:35	
Compound	CAS Number	LOR	Unit	ET2304991-036	ET2304991-037	ET2304991-038	ET2304991-039	ET2304991-040
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	71.5	0.09	32.0	3.52	68.0
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	106	0.06	42.2	3.55	73.0
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1810	1.05	670	21.3	559
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	167	<0.05	33.0	1.52	44.0
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1780	2.97	326	62.2	1220
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<25.0	<0.2	6.6	<1.2	22.6
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	29.5	0.13	20.6	1.40	42.2
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	220	0.42	118	6.86	202
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	31.0	<0.05	11.8	0.62	20.7
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	97.0	<0.05	20.0	1.52	48.2
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<12.5	<0.12	<1.25	<0.60	<5.76
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<12.5	<0.12	<1.25	<0.60	<5.76
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<12.5	<0.12	<1.25	<0.60	<5.76



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC153_231011	0874_MW090_231011	0874_MW005_231011	0874_MW054_231011	0874_MW109_231011
Sampling date / time					11-Oct-2023 11:23	11-Oct-2023 11:43	11-Oct-2023 11:58	11-Oct-2023 12:21	11-Oct-2023 12:35
Compound	CAS Number	LOR	Unit	ET2304991-036	ET2304991-037	ET2304991-038	ET2304991-039	ET2304991-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<12.5	<0.12	<1.25	<0.60	<5.76	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<12.5	<0.12	<1.25	<0.60	<5.76	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<5.00	<0.05	<0.50	<0.24	8.94	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<5.00	<0.05	<0.50	<0.24	<2.30	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	4310	4.72	1280	102	2310	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3590	4.02	996	83.5	1780	
Sum of PFAS (WA DER List)	—	0.01	µg/L	4040	4.66	1200	97.4	2190	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	102	101	99.5	101	96.8	
13C8-PFOA	—	0.02	%	100	100	98.2	101	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_MW110_231011	0874_MW015_231011	0874_MW021_231011	0874_MW244_231011	0874_MW243_231011
Sampling date / time			11-Oct-2023 12:53	11-Oct-2023 13:10	11-Oct-2023 13:23	11-Oct-2023 13:48	11-Oct-2023 14:05	
Compound	CAS Number	LOR	Unit	ET2304991-041	ET2304991-042	ET2304991-043	ET2304991-044	ET2304991-045
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	18.4	<0.48	0.05	0.87	1.71
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	22.1	<0.48	0.07	0.60	1.85
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	214	2.86	1.30	2.67	10.7
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	16.6	<0.48	0.09	<0.10	0.60
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	334	3.10	1.17	4.17	6.38
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.2	<2.4	<0.1	<0.5	0.4
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	15.9	<0.48	0.03	0.27	0.81
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	56.1	0.52	0.19	1.52	3.79
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	6.10	<0.48	0.02	<0.10	0.42
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	13.1	<0.48	0.07	0.17	0.77
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.50	<1.19	<0.05	<0.25	<0.06
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.50	<1.19	<0.05	<0.25	<0.06
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.50	<1.19	<0.05	<0.25	<0.06



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW110_231011	0874_MW015_231011	0874_MW021_231011	0874_MW244_231011	0874_MW243_231011
Sampling date / time					11-Oct-2023 12:53	11-Oct-2023 13:10	11-Oct-2023 13:23	11-Oct-2023 13:48	11-Oct-2023 14:05
Compound	CAS Number	LOR	Unit	ET2304991-041	ET2304991-042	ET2304991-043	ET2304991-044	ET2304991-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.50	<1.19	<0.05	<0.25	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.50	<1.19	<0.05	<0.25	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<1.00	<0.48	<0.02	<0.10	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<1.00	<0.48	<0.05	<0.10	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	1.96	<0.48	<0.05	<0.10	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<1.00	<0.48	<0.05	<0.10	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<1.00	<0.48	<0.05	<0.10	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	705	6.48	2.99	10.3	27.4	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	548	5.96	2.47	6.84	17.1	
Sum of PFAS (WA DER List)	—	0.01	µg/L	667	6.48	2.83	9.67	25.0	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	110	101	98.5	106	97.5	
13C8-PFOA	—	0.02	%	104	104	105	105	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_MW265_231011	0874_QC154_231011	0874_MW138_231011	0874_MW139_231011	0874_MW043_231011
Sampling date / time			11-Oct-2023 14:21	11-Oct-2023 14:22	11-Oct-2023 15:09	11-Oct-2023 15:17	11-Oct-2023 15:44	
Compound	CAS Number	LOR	Unit	ET2304991-046	ET2304991-047	ET2304991-048	ET2304991-049	ET2304991-050
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.40	0.39	60.5	32.9	1.28
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	0.23	80.5	37.4	1.91
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.04	1.02	689	250	28.2
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	0.05	48.8	27.6	1.11
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.75	0.80	814	656	24.0
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.91	<1.00	<0.05
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	24.2	13.4	0.4
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.03	36.5	22.6	1.06
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.16	0.15	180	105	7.64
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	20.1	17.2	0.88
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	44.4	36.0	3.81
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.91	<1.00	<0.05
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.91	<1.00	<0.05
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	1.36	<1.00	<0.05
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	1.64	<1.00	<0.05
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	2.18	<1.00	<0.05
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	4.09	<2.50	<0.12
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.91	<1.00	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<2.27	<2.50	<0.12
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<2.27	<2.50	<0.12



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW265_231011	0874_QC154_231011	0874_MW138_231011	0874_MW139_231011	0874_MW043_231011
Sampling date / time					11-Oct-2023 14:21	11-Oct-2023 14:22	11-Oct-2023 15:09	11-Oct-2023 15:17	11-Oct-2023 15:44
Compound	CAS Number	LOR	Unit	ET2304991-046	ET2304991-047	ET2304991-048	ET2304991-049	ET2304991-050	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<2.27	<2.50	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<2.27	<2.50	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	2.27	<1.00	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	1.73	<1.00	<0.05	
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	<0.91	<1.00	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	1.83	12.4	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.91	<1.00	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.91	<1.00	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	2.70	2.71	2010	1210	70.3	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.79	1.82	1500	906	52.2	
Sum of PFAS (WA DER List)	—	0.01	µg/L	2.43	2.43	1870	1140	67.3	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	101	109	95.8	100	97.4	
13C8-PFOA	—	0.02	%	105	102	102	103	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_MW125_231011	0874_QC352_231011	0874_MW038_231012	0874_MW248_231012	0874_MW061_231012
		Sampling date / time		11-Oct-2023 16:00	11-Oct-2023 16:11	12-Oct-2023 09:45	12-Oct-2023 10:21	12-Oct-2023 10:42
Compound	CAS Number	LOR	Unit	ET2304991-051	ET2304991-052	ET2304991-053	ET2304991-054	ET2304991-055
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.58	<0.02	0.32	21.4	0.41
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.89	<0.02	0.41	27.7	0.54
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	15.5	<0.01	2.79	230	5.91
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.69	<0.02	0.10	21.8	0.31
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	31.8	0.01	2.38	428	17.1
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	<0.1	<0.1	<5.0	<0.5
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.39	<0.02	0.12	8.10	0.25
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.83	<0.02	0.47	54.9	1.14
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.23	<0.02	0.10	5.50	0.14
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.45	<0.01	0.16	19.3	0.55
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.05	<0.06	<2.50	<0.24
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.02	<0.02	1.10	<0.10
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.05	<0.06	<2.50	<0.24
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.05	<0.06	<2.50	<0.24



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW125_231011	0874_QC352_231011	0874_MW038_231012	0874_MW248_231012	0874_MW061_231012
Sampling date / time					11-Oct-2023 16:00	11-Oct-2023 16:11	12-Oct-2023 09:45	12-Oct-2023 10:21	12-Oct-2023 10:42
Compound	CAS Number	LOR	Unit	ET2304991-051	ET2304991-052	ET2304991-053	ET2304991-054	ET2304991-055	
				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	<2.50	<0.24	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.05	<0.06	<2.50	<0.24	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<0.10	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.02	<0.02	<1.00	<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	<1.00	<0.10	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<1.00	<0.10	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<1.00	<0.10	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<1.00	<0.10	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	53.4	0.01	6.85	818	26.4	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	47.3	0.01	5.17	658	23.0	
Sum of PFAS (WA DER List)	—	0.01	µg/L	51.8	0.01	6.34	767	25.5	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	100	106	102	102	102	
13C8-PFOA	—	0.02	%	103	100	101	106	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC155_231012	0874_MW224_231012	0874_MW234_231012	0874_MW255_231012	0874_MW470_231012
Sampling date / time					12-Oct-2023 10:48	12-Oct-2023 11:04	12-Oct-2023 11:58	12-Oct-2023 12:15	12-Oct-2023 13:07
Compound	CAS Number	LOR	Unit	ET2304991-056	ET2304991-057	ET2304991-058	ET2304991-059	ET2304991-060	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.42	0.52	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.52	0.47	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	5.90	2.53	<0.01	<0.01	0.38	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.45	0.21	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	16.2	4.90	0.02	<0.01	0.22	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.20	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.5	0.2	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	0.09	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.13	0.34	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.16	0.04	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.67	0.09	<0.01	<0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.21	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.25	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	0.45	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	0.58	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	0.67	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	1.69	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC155_231012	0874_MW224_231012	0874_MW234_231012	0874_MW255_231012	0874_MW470_231012
Sampling date / time					12-Oct-2023 10:48	12-Oct-2023 11:04	12-Oct-2023 11:58	12-Oct-2023 12:15	12-Oct-2023 13:07
Compound	CAS Number	LOR	Unit	ET2304991-056	ET2304991-057	ET2304991-058	ET2304991-059	ET2304991-060	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.06	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	0.25	<0.06	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	0.60	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	0.50	<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	<0.10	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	0.21	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	31.3	9.39	0.02	<0.01	0.61	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	22.1	7.43	0.02	<0.01	0.60	
Sum of PFAS (WA DER List)	—	0.01	µg/L	24.7	8.71	0.02	<0.01	0.61	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	99.1	101	129	102	105	
13C8-PFOA	—	0.02	%	106	99.8	97.5	98.2	97.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_MW222_231012	0874_MW227_231012	0874_MW229_231012	0874_QC156_231012	0874_QC353_231012
		Sampling date / time		12-Oct-2023 13:59	12-Oct-2023 14:21	12-Oct-2023 14:52	12-Oct-2023 14:55	12-Oct-2023 15:15
Compound	CAS Number	LOR	Unit	ET2304991-061	ET2304991-062	ET2304991-063	ET2304991-064	ET2304991-065
				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	0.07	0.02	<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	0.10	<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	0874_MW222_231012	0874_MW227_231012	0874_MW229_231012	0874_QC156_231012	0874_QC353_231012
Sampling date / time					12-Oct-2023 13:59	12-Oct-2023 14:21	12-Oct-2023 14:52	12-Oct-2023 14:55	12-Oct-2023 15:15
Compound	CAS Number	LOR	Unit	ET2304991-061	ET2304991-062	ET2304991-063	ET2304991-064	ET2304991-065	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.19	0.02	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.17	0.02	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.19	0.02	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	108	109	114	96.7	130	
13C8-PFOA	—	0.02	%	99.6	96.4	99.8	97.5	98.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW207_231012	0874_MW208_231012	0874_MW471_231012	0874_MW211_231012	0874_MW301_231012
Sampling date / time					12-Oct-2023 15:47	12-Oct-2023 15:48	12-Oct-2023 15:49	12-Oct-2023 15:50	12-Oct-2023 15:51
Compound	CAS Number	LOR	Unit	ET2304991-066	ET2304991-067	ET2304991-068	ET2304991-069	ET2304991-070	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.04	<0.02	<0.02	0.03	
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	0.08	0.02	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	0.06	0.22	0.03	0.14	
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	0.03	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.04	<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	0.02	
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	0874_MW207_231012	0874_MW208_231012	0874_MW471_231012	0874_MW211_231012	0874_MW301_231012
Sampling date / time					12-Oct-2023 15:47	12-Oct-2023 15:48	12-Oct-2023 15:49	12-Oct-2023 15:50	12-Oct-2023 15:51
Compound	CAS Number	LOR	Unit	ET2304991-066	ET2304991-067	ET2304991-068	ET2304991-069	ET2304991-070	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.03	0.25	0.24	0.04	0.19	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.14	0.24	0.04	0.14	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.03	0.25	0.24	0.04	0.19	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	110	106	106	98.8	102	
13C8-PFOA	—	0.02	%	97.6	99.8	100	99.3	97.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_MW467_231012	0874_QC111_231012	0874_QC305_231012	0874_MW219_231013	0874_MW233_231013
		Sampling date / time		12-Oct-2023 15:52	12-Oct-2023 15:53	12-Oct-2023 15:54	13-Oct-2023 12:23	13-Oct-2023 12:24
Compound	CAS Number	LOR	Unit	ET2304991-071	ET2304991-072	ET2304991-073	ET2304991-074	ET2304991-075
				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	0.05	<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	0874_MW467_231012	0874_QC111_231012	0874_QC305_231012	0874_MW219_231013	0874_MW233_231013
Sampling date / time					12-Oct-2023 15:52	12-Oct-2023 15:53	12-Oct-2023 15:54	13-Oct-2023 12:23	13-Oct-2023 12:24
Compound	CAS Number	LOR	Unit	ET2304991-071	ET2304991-072	ET2304991-073	ET2304991-074	ET2304991-075	
				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	0.55	0.10	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	<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	0.05	0.01	0.55	0.10	0.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.01	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.05	0.01	0.55	0.10	0.09	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	105	114	128	102	107	
13C8-PFOA	—	0.02	%	97.0	99.3	100	96.6	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_MW213_231013	0874_MW253_231013	0874_MW215_231013	0874_MW262_231013	0874_MW263_231013
Sampling date / time			13-Oct-2023 12:25	13-Oct-2023 12:26	13-Oct-2023 12:27	13-Oct-2023 12:28	13-Oct-2023 12:29	
Compound	CAS Number	LOR	Unit	ET2304991-076	ET2304991-077	ET2304991-078	ET2304991-079	ET2304991-080
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.03	0.02	<0.02	0.03
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	0.02	<0.01	0.09
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	0.02	<0.01	0.02	<0.01	0.12
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	0.06	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.06	<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 (PFTriDA)	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	0874_MW213_231013	0874_MW253_231013	0874_MW215_231013	0874_MW262_231013	0874_MW263_231013
Sampling date / time					13-Oct-2023 12:25	13-Oct-2023 12:26	13-Oct-2023 12:27	13-Oct-2023 12:28	13-Oct-2023 12:29
Compound	CAS Number	LOR	Unit	ET2304991-076	ET2304991-077	ET2304991-078	ET2304991-079	ET2304991-080	
				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	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<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	<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	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.10	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	—	0.01	µg/L	0.26	0.04	0.07	<0.01	0.27	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.01	0.04	<0.01	0.21	
Sum of PFAS (WA DER List)	—	0.01	µg/L	0.26	0.04	0.07	<0.01	0.27	
EP231S: PFAS Surrogate									
13C4-PFOS	—	0.02	%	109	91.9	81.6	99.9	91.0	
13C8-PFOA	—	0.02	%	99.8	99.8	96.6	101	98.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_QC306_231013	0874_QC550_231013	0874_MW016_231010	0874_MW226_231012	---
			Sampling date / time	13-Oct-2023 12:31	13-Oct-2023 14:19	10-Oct-2023 14:19	12-Oct-2023 14:19	---
Compound	CAS Number	LOR	Unit	ET2304991-082	ET2304991-083	ET2304991-084	ET2304991-085	-----
				Result	Result	Result	Result	---
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	19.5	<0.02	---
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	26.2	<0.02	---
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	286	<0.01	---
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	17.3	<0.02	---
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	220	<0.01	---
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	6.6	<0.1	---
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	9.86	<0.02	---
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	53.2	<0.02	---
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	6.62	<0.02	---
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	13.8	<0.01	---
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<1.72	<0.05	---
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<1.72	<0.05	---
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<1.72	<0.05	---



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC306_231013	0874_QC550_231013	0874_MW016_231010	0874_MW226_231012	---
				Sampling date / time	13-Oct-2023 12:31	13-Oct-2023 14:19	10-Oct-2023 14:19	12-Oct-2023 14:19	---
Compound	CAS Number	LOR	Unit	ET2304991-082	ET2304991-083	ET2304991-084	ET2304991-085	-----	
				Result	Result	Result	Result	---	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<1.72	<0.05	---	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<1.72	<0.05	---	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.69	<0.02	---	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.69	<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	<0.69	<0.05	---	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.69	<0.05	---	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.69	<0.05	---	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.69	<0.05	---	
EP231P: PFAS Sums									
Sum of PFAS	---	0.01	µg/L	<0.01	<0.01	659	<0.01	---	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	506	<0.01	---	
Sum of PFAS (WA DER List)	---	0.01	µg/L	<0.01	<0.01	616	<0.01	---	
EP231S: PFAS Surrogate									
13C4-PFOS	---	0.02	%	94.5	72.4	82.6	84.0	---	
13C8-PFOA	---	0.02	%	96.6	92.5	95.6	97.2	---	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	---	65	140
13C8-PFOA	---	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n.2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2304991	Page	: 1 of 14
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 17-Oct-2023
Site	: QLD_0874	Issue Date	: 27-Oct-2023
Sampler	: [REDACTED]	No. of samples received	: 85
Order number	: 60612487_2.1	No. of samples analysed	: 84

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 Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Method Blank value 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: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Method Blank (MB) Values							
EP231B: Perfluoroalkyl Carboxylic Acids	QC-5377971-001	---	Perfluorobutanoic acid (PFBA)	375-22-4	<0.1 µg/L	0.1 µg/L	Blank result exceeds permitted value
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2304991-021	0874_MW063_231010	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	ET2304991-045	0874_MW243_231011	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	ET2304991-021	0874_MW063_231010	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	---	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2304991-045	0874_MW243_231011	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
	QC	Regular	Actual	Expected	
Method	9	94	9.57	10.00	NEPM 2013 B3 & ALS QC Standard
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	9	94	9.57	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	94	4.26	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	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							



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) 0874_MW118_231009, 0874_MW142_231009, 0874_MW251_231009, 0874_MW112_231009, 0874_QC350_231009	0874_MW140_231009, 0874_MW250_231009, 0874_QC150_231009, 0874_MW057_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	23-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW300_231010, 0874_MW004_231010, 0874_MW135_231010, 0874_MW114_231010, 0874_QC151_231010, 0874_MW232_231010, 0874_MW120_231010, 0874_MW034_231010, 0874_MW046_231010, 0874_MW136_231010, 0874_QC152_231010	0874_MW002_231010, 0874_MW241_231010, 0874_MW056_231010, 0874_MW009_231010, 0874_MW247_231010, 0874_MW063_231010, 0874_MW026_231010, 0874_MW033_231010, 0874_MW055_231010, 0874_QC351_231010,	10-Oct-2023	23-Oct-2023	07-Apr-2024	✓	23-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW016_231010		10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW242_231011, 0874_MW246_231011, 0874_MW081_231011, 0874_MW090_231011,	0874_MW122_231011, 0874_MW245_231011, 0874_QC153_231011, 0874_MW005_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	23-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW054_231011, 0874_MW110_231011, 0874_MW021_231011, 0874_MW243_231011, 0874_QC154_231011, 0874_MW139_231011, 0874_MW125_231011,	0874_MW109_231011, 0874_MW015_231011, 0874_MW244_231011, 0874_MW265_231011, 0874_MW138_231011, 0874_MW043_231011, 0874_QC352_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	25-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW234_231012, 0874_MW470_231012, 0874_MW227_231012, 0874_QC156_231012, 0874_MW207_231012, 0874_MW471_231012, 0874_MW301_231012, 0874_QC111_231012,	0874_MW255_231012, 0874_MW222_231012, 0874_MW229_231012, 0874_QC353_231012, 0874_MW208_231012, 0874_MW211_231012, 0874_MW467_231012, 0874_QC305_231012	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-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	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
HDPE (no PTFE) (EP231X) 0874_MW038_231012, 0874_MW061_231012, 0874_MW224_231012	0874_MW248_231012, 0874_QC155_231012, 0874_MW226_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW219_231013, 0874_MW213_231013	0874_MW233_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC550_231013		13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW253_231013, 0874_MW252_231013, 0874_QC306_231013	0874_MW215_231013, 0874_MW263_231013	13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	26-Oct-2023	10-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) 0874_MW118_231009, 0874_MW142_231009, 0874_MW251_231009, 0874_MW112_231009, 0874_QC350_231009	0874_MW140_231009, 0874_MW250_231009, 0874_QC150_231009, 0874_MW057_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	23-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW300_231010, 0874_MW004_231010, 0874_MW135_231010, 0874_MW114_231010, 0874_QC151_231010, 0874_MW232_231010, 0874_MW120_231010, 0874_MW034_231010, 0874_MW046_231010, 0874_MW136_231010, 0874_QC152_231010	0874_MW002_231010, 0874_MW241_231010, 0874_MW056_231010, 0874_MW009_231010, 0874_MW247_231010, 0874_MW063_231010, 0874_MW026_231010, 0874_MW033_231010, 0874_MW055_231010, 0874_QC351_231010,	10-Oct-2023	23-Oct-2023	07-Apr-2024	✓	23-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW016_231010		10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW242_231011, 0874_MW246_231011, 0874_MW081_231011, 0874_MW090_231011,	0874_MW122_231011, 0874_MW245_231011, 0874_QC153_231011, 0874_MW005_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	23-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW054_231011, 0874_MW110_231011, 0874_MW021_231011, 0874_MW243_231011, 0874_QC154_231011, 0874_MW139_231011, 0874_MW125_231011,	0874_MW109_231011, 0874_MW015_231011, 0874_MW244_231011, 0874_MW265_231011, 0874_MW138_231011, 0874_MW043_231011, 0874_QC352_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	25-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW234_231012, 0874_MW470_231012, 0874_MW227_231012, 0874_QC156_231012, 0874_MW207_231012, 0874_MW471_231012, 0874_MW301_231012, 0874_QC111_231012,	0874_MW255_231012, 0874_MW222_231012, 0874_MW229_231012, 0874_QC353_231012, 0874_MW208_231012, 0874_MW211_231012, 0874_MW467_231012, 0874_QC305_231012	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-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 - Continued								
HDPE (no PTFE) (EP231X) 0874_MW038_231012, 0874_MW061_231012, 0874_MW224_231012,	0874_MW248_231012, 0874_QC155_231012, 0874_MW226_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW219_231013, 0874_MW213_231013	0874_MW233_231013,	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC550_231013		13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW253_231013, 0874_MW252_231013, 0874_QC306_231013	0874_MW215_231013, 0874_MW263_231013,	13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	26-Oct-2023	10-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) 0874_MW118_231009, 0874_MW142_231009, 0874_MW251_231009, 0874_MW112_231009, 0874_QC350_231009	0874_MW140_231009, 0874_MW250_231009, 0874_QC150_231009, 0874_MW057_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	23-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW300_231010, 0874_MW004_231010, 0874_MW135_231010, 0874_MW114_231010, 0874_QC151_231010, 0874_MW232_231010, 0874_MW120_231010, 0874_MW034_231010, 0874_MW046_231010, 0874_MW136_231010, 0874_QC152_231010	0874_MW002_231010, 0874_MW241_231010, 0874_MW056_231010, 0874_MW009_231010, 0874_MW247_231010, 0874_MW063_231010, 0874_MW026_231010, 0874_MW033_231010, 0874_MW055_231010, 0874_QC351_231010,	10-Oct-2023	23-Oct-2023	07-Apr-2024	✓	23-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW016_231010		10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW242_231011, 0874_MW246_231011, 0874_MW081_231011, 0874_MW090_231011,	0874_MW122_231011, 0874_MW245_231011, 0874_QC153_231011, 0874_MW005_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	23-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW054_231011, 0874_MW110_231011, 0874_MW021_231011, 0874_MW243_231011, 0874_QC154_231011, 0874_MW139_231011, 0874_MW125_231011,	0874_MW109_231011, 0874_MW015_231011, 0874_MW244_231011, 0874_MW265_231011, 0874_MW138_231011, 0874_MW043_231011, 0874_QC352_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	25-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW234_231012, 0874_MW470_231012, 0874_MW227_231012, 0874_QC156_231012, 0874_MW207_231012, 0874_MW471_231012, 0874_MW301_231012, 0874_QC111_231012,	0874_MW255_231012, 0874_MW222_231012, 0874_MW229_231012, 0874_QC353_231012, 0874_MW208_231012, 0874_MW211_231012, 0874_MW467_231012, 0874_QC305_231012	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-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 - Continued								
HDPE (no PTFE) (EP231X) 0874_MW038_231012, 0874_MW061_231012, 0874_MW224_231012,	0874_MW248_231012, 0874_QC155_231012, 0874_MW226_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW219_231013, 0874_MW213_231013	0874_MW233_231013,	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC550_231013		13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW253_231013, 0874_MW252_231013, 0874_QC306_231013	0874_MW215_231013, 0874_MW263_231013,	13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	26-Oct-2023	10-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) 0874_MW118_231009, 0874_MW142_231009, 0874_MW251_231009, 0874_MW112_231009, 0874_QC350_231009	0874_MW140_231009, 0874_MW250_231009, 0874_QC150_231009, 0874_MW057_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	23-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW300_231010, 0874_MW004_231010, 0874_MW135_231010, 0874_MW114_231010, 0874_QC151_231010, 0874_MW232_231010, 0874_MW120_231010, 0874_MW034_231010, 0874_MW046_231010, 0874_MW136_231010, 0874_QC152_231010	0874_MW002_231010, 0874_MW241_231010, 0874_MW056_231010, 0874_MW009_231010, 0874_MW247_231010, 0874_MW063_231010, 0874_MW026_231010, 0874_MW033_231010, 0874_MW055_231010, 0874_QC351_231010,	10-Oct-2023	23-Oct-2023	07-Apr-2024	✓	23-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW016_231010		10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW242_231011, 0874_MW246_231011, 0874_MW081_231011, 0874_MW090_231011,	0874_MW122_231011, 0874_MW245_231011, 0874_QC153_231011, 0874_MW005_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	23-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW054_231011, 0874_MW110_231011, 0874_MW021_231011, 0874_MW243_231011, 0874_QC154_231011, 0874_MW139_231011, 0874_MW125_231011,	0874_MW109_231011, 0874_MW015_231011, 0874_MW244_231011, 0874_MW265_231011, 0874_MW138_231011, 0874_MW043_231011, 0874_QC352_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	25-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW234_231012, 0874_MW470_231012, 0874_MW227_231012, 0874_QC156_231012, 0874_MW207_231012, 0874_MW471_231012, 0874_MW301_231012, 0874_QC111_231012,	0874_MW255_231012, 0874_MW222_231012, 0874_MW229_231012, 0874_QC353_231012, 0874_MW208_231012, 0874_MW211_231012, 0874_MW467_231012, 0874_QC305_231012	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-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 - Continued								
HDPE (no PTFE) (EP231X) 0874_MW038_231012, 0874_MW061_231012, 0874_MW224_231012,	0874_MW248_231012, 0874_QC155_231012, 0874_MW226_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW219_231013, 0874_MW213_231013	0874_MW233_231013,	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC550_231013		13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW253_231013, 0874_MW252_231013, 0874_QC306_231013	0874_MW215_231013, 0874_MW263_231013,	13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	26-Oct-2023	10-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) 0874_MW118_231009, 0874_MW142_231009, 0874_MW251_231009, 0874_MW112_231009, 0874_QC350_231009	0874_MW140_231009, 0874_MW250_231009, 0874_QC150_231009, 0874_MW057_231009,	09-Oct-2023	23-Oct-2023	06-Apr-2024	✓	23-Oct-2023	06-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW300_231010, 0874_MW004_231010, 0874_MW135_231010, 0874_MW114_231010, 0874_QC151_231010, 0874_MW232_231010, 0874_MW120_231010, 0874_MW034_231010, 0874_MW046_231010, 0874_MW136_231010, 0874_QC152_231010	0874_MW002_231010, 0874_MW241_231010, 0874_MW056_231010, 0874_MW009_231010, 0874_MW247_231010, 0874_MW063_231010, 0874_MW026_231010, 0874_MW033_231010, 0874_MW055_231010, 0874_QC351_231010,	10-Oct-2023	23-Oct-2023	07-Apr-2024	✓	23-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW016_231010		10-Oct-2023	24-Oct-2023	07-Apr-2024	✓	25-Oct-2023	07-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW242_231011, 0874_MW246_231011, 0874_MW081_231011, 0874_MW090_231011,	0874_MW122_231011, 0874_MW245_231011, 0874_QC153_231011, 0874_MW005_231011	11-Oct-2023	23-Oct-2023	08-Apr-2024	✓	23-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW054_231011, 0874_MW110_231011, 0874_MW021_231011, 0874_MW243_231011, 0874_QC154_231011, 0874_MW139_231011, 0874_MW125_231011,	0874_MW109_231011, 0874_MW015_231011, 0874_MW244_231011, 0874_MW265_231011, 0874_MW138_231011, 0874_MW043_231011, 0874_QC352_231011	11-Oct-2023	24-Oct-2023	08-Apr-2024	✓	25-Oct-2023	08-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW234_231012, 0874_MW470_231012, 0874_MW227_231012, 0874_QC156_231012, 0874_MW207_231012, 0874_MW471_231012, 0874_MW301_231012, 0874_QC111_231012,	0874_MW255_231012, 0874_MW222_231012, 0874_MW229_231012, 0874_QC353_231012, 0874_MW208_231012, 0874_MW211_231012, 0874_MW467_231012, 0874_QC305_231012	12-Oct-2023	23-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-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 - Continued								
HDPE (no PTFE) (EP231X) 0874_MW038_231012, 0874_MW061_231012, 0874_MW224_231012	0874_MW248_231012, 0874_QC155_231012, 0874_MW226_231012	12-Oct-2023	24-Oct-2023	09-Apr-2024	✓	25-Oct-2023	09-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW219_231013, 0874_MW213_231013	0874_MW233_231013	13-Oct-2023	23-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC550_231013		13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	25-Oct-2023	10-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW253_231013, 0874_MW252_231013, 0874_QC306_231013	0874_MW215_231013, 0874_MW263_231013	13-Oct-2023	24-Oct-2023	10-Apr-2024	✓	26-Oct-2023	10-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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	9	94	9.57	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	94	5.32	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	94	5.32	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	94	4.26	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.



QUALITY CONTROL REPORT

Work Order	: ET2304991	Page	: 1 of 23
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: —	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 17-Oct-2023
Order number	: 60612487_2.1	Date Analysis Commenced	: 20-Oct-2023
C-O-C number	: 58363	Issue Date	: 27-Oct-2023
Sampler	: [REDACTED] [REDACTED] [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 85		
No. of samples analysed	: 84		



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 NIEPM. 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/Concentration	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5376103)									
ET2304991-003	0874_MW142_231009	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.03	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
ET2304991-011	0874_MW002_231010	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.66	2.69	0.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.27	3.71	14.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.36	0.34	5.6	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.36	0.34	6.4	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.15	0.16	6.5	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: 5376105)									
ET2304991-020	0874_MW232_231010	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	5.96	5.80	2.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	15.2	14.6	4.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.76	0.77	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.88	0.82	6.1	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.43	0.44	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	0.0	No Limit
ET2304991-030	0874_QC152_231010	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	46.9	45.0	4.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	106	104	2.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	5.80	5.60	3.5	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	6.85	6.10	11.6	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	2.55	2.60	1.9	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5376105) - continued									
ET2304991-030	0874_QC152_231010	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.50	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5376107)									
ET2304991-059	0874_MW255_231012	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: 5377971)									
ET2304991-040	0874_MW109_231011	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	559	588	5.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1220	1000	19.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	68.0	70.3	3.4	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	73.0	82.2	11.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	44.0	49.7	12.2	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<2.30	<2.54	9.7	No Limit
ET2304991-054	0874_MW248_231012	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	230	222	3.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	428	461	7.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	21.4	21.6	0.9	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	27.7	24.7	11.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	21.8	21.5	1.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<1.00	<1.00	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5377980)									
ET2304991-078	0874_MW215_231013	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	0.02	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
ET2304991-080	0874_MW263_231013	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.09	0.08	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	0.14	16.5	0% - 50%
		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	<0.02	<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: 5376103)									
ET2304991-003	0874_MW142_231009	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: 5376103) - continued											
ET2304991-003	0874_MW142_231009	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 (PFTriDA)	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		
ET2304991-011	0874_MW002_231010	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.23	0.24	0.0	0% - 20%		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	0.25	6.2	0% - 50%		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.17	1.12	4.5	0% - 20%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	0.12	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 (PFTriDA)	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: 5376105)									
		ET2304991-020	0874_MW232_231010	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.42	0.43	0.0	No Limit
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	0.28	0.28	0.0	No Limit		
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	1.02	0.97	5.4	0% - 20%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.18	0.17	0.0	No Limit		
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	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8			0.02	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.12	<0.12	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.2	<0.2	0.0	No Limit		
ET2304991-030	0874_QC152_231010			EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	5.65	6.00	6.0	0% - 50%
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	3.25	3.25	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	15.8	15.6	1.3	0% - 20%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.85	1.85	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<1.25	0.0	No Limit		



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Component	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5376105) - continued									
ET2304991-030	0874_QC152_231010	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<2.5	<2.5	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5376107)									
ET2304991-059	0874_MW255_231012	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 (PFTriDA)	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: 5377971)									
ET2304991-040	0874_MW109_231011	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	48.2	47.0	2.5	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	42.2	44.2	4.6	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	202	202	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	20.7	22.3	7.4	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<5.76	<6.34	9.7	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	22.6	25.4	11.7	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	19.3	19.9	3.1	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	8.10	7.80	3.8	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	54.9	54.6	0.5	0% - 20%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	5.50	5.50	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.50	<2.50	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<5.0	<5.0	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5377980)									
ET2304991-078	0874_MW215_231013	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



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: 5377980) - continued									
ET2304991-078	0874_MW215_231013	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 (PFTriDA)	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
ET2304991-080	0874_MW263_231013	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 (PFTriDA)	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: 5376103)							
ET2304991-003	0874_MW142_231009	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 (EiFOSAA)	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 (EiFOSA)	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 (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2304991-011	0874_MW002_231010	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 (EiFOSAA)	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



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Concentration	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5376103) - continued									
ET2304991-011	0874_MW002_231010	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: 5376105)									
ET2304991-020	0874_MW232_231010	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
ET2304991-030	0874_QC152_231010	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<1.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<1.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<1.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<1.25	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5376107)									
ET2304991-059	0874_MW255_231012	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



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5376107) - continued									
ET2304991-059	0874_MW255_231012	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: 5377971)									
ET2304991-040	0874_MW109_231011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<5.76	<6.34	9.7	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<5.76	<6.34	9.7	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<5.76	<6.34	9.7	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<5.76	<6.34	9.7	No Limit
ET2304991-054	0874_MW248_231012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	1.10	1.20	8.7	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.50	<2.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.50	<2.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.50	<2.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.50	<2.50	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5377980)									
ET2304991-078	0874_MW215_231013	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



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Concentration	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5377980) - continued									
ET2304991-078	0874_MW215_231013	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
ET2304991-080	0874_MW263_231013	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: 5376103)									
ET2304991-003	0874_MW142_231009	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
ET2304991-011	0874_MW002_231010	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: 5376105)									
ET2304991-020	0874_MW232_231010	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



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Comment	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5376105) - continued									
ET2304991-020	0874_MW232_231010	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
ET2304991-030	0874_QC152_231010	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.50	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5376107)									
ET2304991-059	0874_MW255_231012	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: 5377971)									
ET2304991-040	0874_MW109_231011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	8.94	9.30	3.9	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<2.30	<2.54	9.7	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<2.30	<2.54	9.7	No Limit
ET2304991-054	0874_MW248_231012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<1.00	<1.00	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5377980)									
ET2304991-078	0874_MW215_231013	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: Contaminant	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5377980) - continued									
ET2304991-078	0874_MW215_231013	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
ET2304991-080	0874_MW263_231013	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: 5376103)									
ET2304991-003	0874_MW142_231009	EP231X: Sum of PFAS	---	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.03	0.03	0.0	No Limit
ET2304991-011	0874_MW002_231010	EP231X: Sum of PFAS	---	0.01	µg/L	9.65	9.07	6.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.93	6.40	8.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	9.14	8.57	6.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 5376105)									
ET2304991-020	0874_MW232_231010	EP231X: Sum of PFAS	---	0.01	µg/L	25.1	24.3	3.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	21.2	20.4	3.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	23.8	23.0	3.4	0% - 20%
ET2304991-030	0874_QC152_231010	EP231X: Sum of PFAS	---	0.01	µg/L	195	190	2.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	153	149	2.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	185	181	2.2	0% - 20%
EP231P: PFAS Sums (QC Lot: 5376107)									
ET2304991-059	0874_MW255_231012	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: 5377971)									
ET2304991-040	0874_MW109_231011	EP231X: Sum of PFAS	---	0.01	µg/L	2310	2140	7.6	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 (%)
EP231P: PFAS Sums (QC Lot: 5377971) - continued									
ET2304991-040	0874_MW109_231011	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1780	1590	11.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	2190	2010	8.7	0% - 20%
ET2304991-054	0874_MW248_231012	EP231X: Sum of PFAS	---	0.01	µg/L	818	840	2.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	658	683	3.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	767	792	3.2	0% - 20%
EP231P: PFAS Sums (QC Lot: 5377980)									
ET2304991-078	0874_MW215_231013	EP231X: Sum of PFAS	---	0.01	µg/L	0.07	0.06	15.4	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.07	0.06	15.4	No Limit
ET2304991-080	0874_MW263_231013	EP231X: Sum of PFAS	---	0.01	µg/L	0.27	0.28	3.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.21	0.22	4.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01	µg/L	0.27	0.28	3.6	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5376103)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	94.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	98.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	90.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	83.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	131	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5376105)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	119	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	113	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	118	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	105	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5376107)								
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	94.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	87.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	88.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.9	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	88.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377971)								
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	116	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	101	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	109	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.4	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	85.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377980)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	98.3	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	92.0	71.0	127



Sub-Matrix: **WATER**

Method/Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377980) - continued									
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	93.6	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	92.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	86.6	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	82.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5376103)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.8	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	98.4	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	100	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.4	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: 5376105)									
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	107	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	107	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	111	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	105	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	110	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	100	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5376107)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.9	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.0	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.8	71.0	133	



Sub-Matrix: **WATER**

Method/Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5376107) - continued									
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.8	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 (PFTriDA)	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	99.4	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377971)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	# <0.1	1.25 µg/L	95.0	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	100	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	101	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	94.0	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	87.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	82.1	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377980)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.7	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	94.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.6	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	95.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	104	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	81.2	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5376103)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	97.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	93.4	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	99.8	60.5	138	



Sub-Matrix: **WATER**

Method/Compound	CAS Number	LDR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report			
				Report	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				Result			LCS	Low
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5376103) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.0	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	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 (EiFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5376105)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	93.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EiFOSA)	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	118	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	99.6	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5376107)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	91.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	85.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EiFOSA)	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	87.2	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EiFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	100	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	95.6	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EiFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377971)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.8	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EiFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.8	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	85.9	68.3	134



Sub-Matrix: **WATER**

Method/Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report			
				Report	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				Result			LCS	Low
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377971) - continued								
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	78.2	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	100	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	92.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377980)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	83.0	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	125	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.3	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.0	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	98.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5376103)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	98.2	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	117	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	121	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	120	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5376105)								
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	116	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	117	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	99.8	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5376107)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	106	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	91.7	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	91.0	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	90.7	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377971)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	103	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)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377971) - continued									
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	117	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	87.8	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377980)									
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	130	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	121	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	102	64.2	133	
EP231P: PFAS Sums (QCLot: 5376103)									
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: 5376105)									
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: 5376107)									
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: 5377971)									
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: 5377980)									
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	Spike Recovery (%) MS	Acceptable Limits (%)	
				Low	High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5376103)							
ET2304991-010	0874_MW300_231010	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	112	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	112	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	96.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	93.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	88.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	104	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5376105)							
ET2304991-021	0874_MW063_231010	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	90.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	105	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	98.7	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	86.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377971)							
ET2304991-045	0874_MW243_231011	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	96.8	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	102	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	88.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5377980)							
ET2304991-079	0874_MW252_231013	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	83.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	87.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	102	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	94.4	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	106	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	96.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5376103)							
ET2304991-010	0874_MW300_231010	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	104	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	110	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	112	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	103	72.0	130



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number		Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5376103) - continued							
ET2304991-010	0874_MW300_231010	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	103	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	104	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	111	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	114	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	107	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5376105)							
ET2304991-021	0874_MW063_231010	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	89.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.2	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	91.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	86.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	88.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	84.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	82.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377971)							
ET2304991-045	0874_MW243_231011	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	88.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	95.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.3	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	90.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	94.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	88.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	87.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	84.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	84.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	84.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377980)							
ET2304991-079	0874_MW252_231013	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	81.1	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	96.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.2	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	98.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	96.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.7	69.0	130



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5377980) - continued							
ET2304991-079	0874_MW252_231013	EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	103	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	85.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	101	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	109	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	81.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5376103)							
ET2304991-010	0874_MW300_231010	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	97.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	103	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	96.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	128	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	105	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	98.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5376105)							
ET2304991-021	0874_MW063_231010	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	92.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	92.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	90.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	88.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	74.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377971)							
ET2304991-045	0874_MW243_231011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	92.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	95.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	76.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.7	70.0	130



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377971) - continued							
ET2304991-045	0874_MW243_231011	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EIFOSE)	1691-99-2	0.625 µg/L	86.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EIFOSAA)	2991-50-6	0.25 µg/L	87.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5377980)							
ET2304991-079	0874_MW252_231013	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	84.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	129	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	97.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EIFOSE)	1691-99-2	0.625 µg/L	97.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	84.1	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EIFOSAA)	2991-50-6	0.25 µg/L	97.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5376103)							
ET2304991-010	0874_MW300_231010	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	102	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	128	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	120	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5376105)							
ET2304991-021	0874_MW063_231010	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	90.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	95.7	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	90.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	77.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377971)							
ET2304991-045	0874_MW243_231011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	91.7	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	94.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	111	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	81.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377980)							
ET2304991-079	0874_MW252_231013	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	124	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	120	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	69.1	67.0	138

Page : 23 of 23
 Work Order : ET2304991
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_23



Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	Spike/Recovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5377980) - continued							
ET2304991-079	0874_MW252_231013	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	81.0	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ET2304991**

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]@aecom.com	E-mail	: [REDACTED]@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8616
Facsimile	: ----	Facsimile	:
Project	: QLD_0874_PFASOMP_23	Page	: 1 of 5
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 58363	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED] [REDACTED] [REDACTED]		

Dates

Date Samples Received	: 17-Oct-2023 08:00	Issue Date	: 20-Oct-2023
Client Requested Due Date	: 25-Oct-2023	Scheduled Reporting Date	: 25-Oct-2023

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 4	Temperature	: 2.1, 2.5, 1.7, 3.7°C
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 85 / 84

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
- **20/10/23: SRN has been resent to acknowledge the updates of dates and extra sample info as provided by [REDACTED]. For any further information regarding these adjustments please contact client services at [REDACTED]**
- ***Samples were originally received by ALS Townsville on 17/10/23, and forwarded to ALS Brisbane for analysis.**
- **PLEASE NOTE: 2x Additional sample sets have been received not originally listed on the Chain Of Custody, '0874_MW016_231010' & '0874_MW226_231012', these have been added to the end of the work order and have had 'Table 1 - Water suite' assigned, which reflects all other analysis assigned. If this is incorrect, or you would like to discuss this further, please contact ALS Brisbane Client Services Department at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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)
ET2304991-001	09-Oct-2023 08:20	0874_MW118_231009		✓
ET2304991-002	09-Oct-2023 08:37	0874_MW140_231009		✓
ET2304991-003	09-Oct-2023 09:06	0874_MW142_231009		✓
ET2304991-004	09-Oct-2023 09:28	0874_MW250_231009		✓
ET2304991-005	09-Oct-2023 09:44	0874_MW251_231009		✓
ET2304991-006	09-Oct-2023 09:45	0874_QC150_231009		✓
ET2304991-007	09-Oct-2023 15:28	0874_MW112_231009		✓
ET2304991-008	09-Oct-2023 16:11	0874_MW057_231009		✓
ET2304991-009	09-Oct-2023 16:16	0874_QC350_231009		✓
ET2304991-010	10-Oct-2023 09:07	0874_MW300_231010		✓
ET2304991-011	10-Oct-2023 10:03	0874_MW002_231010		✓
ET2304991-012	10-Oct-2023 10:05	0874_MW004_231010		✓
ET2304991-013	10-Oct-2023 10:05	0874_MW241_231010		✓
ET2304991-014	10-Oct-2023 10:12	0874_MW135_231010		✓
ET2304991-015	10-Oct-2023 10:26	0874_MW056_231010		✓
ET2304991-016	10-Oct-2023 10:36	0874_MW114_231010		✓
ET2304991-017	10-Oct-2023 11:11	0874_MW009_231010		✓
ET2304991-018	10-Oct-2023 11:12	0874_QC151_231010		✓
ET2304991-019	10-Oct-2023 11:13	0874_MW247_231010		✓
ET2304991-020	10-Oct-2023 11:28	0874_MW232_231010		✓
ET2304991-021	10-Oct-2023 11:42	0874_MW063_231010		✓
ET2304991-022	10-Oct-2023 12:04	0874_MW120_231010		✓
ET2304991-023	10-Oct-2023 12:15	0874_MW026_231010		✓
ET2304991-024	10-Oct-2023 12:32	0874_MW034_231010		✓
ET2304991-025	10-Oct-2023 12:40	0874_MW033_231010		✓
ET2304991-026	10-Oct-2023 13:50	0874_MW046_231010		✓
ET2304991-027	10-Oct-2023 14:03	0874_MW055_231010		✓
ET2304991-028	10-Oct-2023 14:33	0874_MW136_231010		✓
ET2304991-029	10-Oct-2023 15:11	0874_QC351_231010		✓
ET2304991-030	10-Oct-2023 15:15	0874_QC152_231010		✓
ET2304991-031	11-Oct-2023 09:56	0874_MW242_231011		✓
ET2304991-032	11-Oct-2023 10:17	0874_MW122_231011		✓
ET2304991-033	11-Oct-2023 10:44	0874_MW246_231011		✓
ET2304991-034	11-Oct-2023 11:09	0874_MW245_231011		✓
ET2304991-035	11-Oct-2023 11:22	0874_MW081_231011		✓



Sample ID	Sample Date	Sample Name	Analysis Status	Notes
ET2304991-036	11-Oct-2023 11:23	0874_QC153_231011	✓	
ET2304991-037	11-Oct-2023 11:43	0874_MW090_231011	✓	
ET2304991-038	11-Oct-2023 11:58	0874_MW005_231011	✓	
ET2304991-039	11-Oct-2023 12:21	0874_MW054_231011	✓	
ET2304991-040	11-Oct-2023 12:35	0874_MW109_231011	✓	
ET2304991-041	11-Oct-2023 12:53	0874_MW110_231011	✓	
ET2304991-042	11-Oct-2023 13:10	0874_MW015_231011	✓	
ET2304991-043	11-Oct-2023 13:23	0874_MW021_231011	✓	
ET2304991-044	11-Oct-2023 13:48	0874_MW244_231011	✓	
ET2304991-045	11-Oct-2023 14:05	0874_MW243_231011	✓	
ET2304991-046	11-Oct-2023 14:21	0874_MW265_231011	✓	
ET2304991-047	11-Oct-2023 14:22	0874_QC154_231011	✓	
ET2304991-048	11-Oct-2023 15:09	0874_MW138_231011	✓	
ET2304991-049	11-Oct-2023 15:17	0874_MW139_231011	✓	
ET2304991-050	11-Oct-2023 15:44	0874_MW043_231011	✓	
ET2304991-051	11-Oct-2023 16:00	0874_MW125_231011	✓	
ET2304991-052	11-Oct-2023 16:11	0874_QC352_231011	✓	
ET2304991-053	12-Oct-2023 09:45	0874_MW038_231012	✓	
ET2304991-054	12-Oct-2023 10:21	0874_MW248_231012	✓	
ET2304991-055	12-Oct-2023 10:42	0874_MW061_231012	✓	
ET2304991-056	12-Oct-2023 10:48	0874_QC155_231012	✓	
ET2304991-057	12-Oct-2023 11:04	0874_MW224_231012	✓	
ET2304991-058	12-Oct-2023 11:58	0874_MW234_231012	✓	
ET2304991-059	12-Oct-2023 12:15	0874_MW255_231012	✓	
ET2304991-060	12-Oct-2023 13:07	0874_MW470_231012	✓	
ET2304991-061	12-Oct-2023 13:59	0874_MW222_231012	✓	
ET2304991-062	12-Oct-2023 14:21	0874_MW227_231012	✓	
ET2304991-063	12-Oct-2023 14:52	0874_MW229_231012	✓	
ET2304991-064	12-Oct-2023 14:55	0874_QC156_231012	✓	
ET2304991-065	12-Oct-2023 15:15	0874_QC353_231012	✓	
ET2304991-066	12-Oct-2023 15:47	0874_MW207_231012	✓	
ET2304991-067	12-Oct-2023 15:48	0874_MW208_231012	✓	
ET2304991-068	12-Oct-2023 15:49	0874_MW471_231012	✓	
ET2304991-069	12-Oct-2023 15:50	0874_MW211_231012	✓	
ET2304991-070	12-Oct-2023 15:51	0874_MW301_231012	✓	
ET2304991-071	12-Oct-2023 15:52	0874_MW467_231012	✓	
ET2304991-072	12-Oct-2023 15:53	0874_QC111_231012	✓	
ET2304991-073	12-Oct-2023 15:54	0874_QC305_231012	✓	
ET2304991-074	13-Oct-2023 12:23	0874_MW219_231013	✓	
ET2304991-075	13-Oct-2023 12:24	0874_MW233_231013	✓	
ET2304991-076	13-Oct-2023 12:25	0874_MW213_231013	✓	

(On Hold) WATER
No analysis requested
WATER - EP231X
PFAS - Full Suite (28 analytes)



Sample ID	Time	Sample Name	Analysis Requested	Analysis Completed
ET2304991-077	13-Oct-2023 12:26	0874_MW253_231013		✓
ET2304991-078	13-Oct-2023 12:27	0874_MW215_231013		✓
ET2304991-079	13-Oct-2023 12:28	0874_MW252_231013		✓
ET2304991-080	13-Oct-2023 12:29	0874_MW263_231013		✓
ET2304991-081	13-Oct-2023 12:30	0874_QC112_231013	✓	
ET2304991-082	13-Oct-2023 12:31	0874_QC306_231013		✓
ET2304991-083	13-Oct-2023 14:19	0874_QC550_231013		✓
ET2304991-084	10-Oct-2023 14:19	0874_MW016_231010		✓
ET2304991-085	12-Oct-2023 14:19	0874_MW226_231012		✓

(On Hold) WATER
 No analysis requested
 WATER - EP231X
 PFAS - Full Suite (28 analytes)

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

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email derp.labreports@esdat.com.au
Email derp.labreports@esdat.com.au
Email derp.labreports@esdat.com.au
Email derp.labreports@esdat.com.au
Email derp.labreports@esdat.com.au
Email derp.labreports@esdat.com.au
Email derp.labreports@esdat.com.au

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com
Email [REDACTED]@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n-2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums



CERTIFICATE OF ANALYSIS

Work Order : **ET2305576**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 5175
TOWNSVILLE QLD, AUSTRALIA 4870
Telephone : ----
Project : QLD_0874_PFASOMP_23
Order number : 60612487_2.1
C-O-C number : 60264
Sampler : [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 5
No. of samples analysed : 5

Page : 1 of 7
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : +61 7 3552 8616
Date Samples Received : 21-Nov-2023 08:00
Date Analysis Commenced : 21-Nov-2023
Issue Date : 27-Nov-2023 16:47



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 Inorganic Chemist
Senior Chemist - Organics

Brisbane Soil Preparation, Stafford, QLD
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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Whole bottle extraction was not possible for samples '0874_MW015_231117' (ET2305576-001) & '0874_MW021_231117' (ET2305576-002). Samples required dilution prior to extraction due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- 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.
- 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, PFTiDA 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		0874_SD016_231117	---	---	---	---
		Sampling date / time		17-Nov-2023 08:40	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2305576-005	-----	-----	-----	-----
				Result	---	---	---	---
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	---	0.1	%	3.6	---	---	---	---
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0004	---	---	---	---
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0004	---	---	---	---
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0054	---	---	---	---
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0003	---	---	---	---
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0269	---	---	---	---
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	0.0003	---	---	---	---
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0013	---	---	---	---
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	---	---	---	---
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	---	---	---	---
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)	375-06-7	0.0005	mg/kg	<0.0005	---	---	---	---
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	---	---	---	---



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		0874_SD016_231117	---	---	---	---
		Sampling date / time		17-Nov-2023 08:40	---	---	---	---
Compound	CAS Number	LOR	Unit	ET2305576-005	-----	-----	-----	-----
				Result	---	---	---	---
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	---	---	---	---
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)	27619-87-2	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	0.0354	---	---	---	---
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0323	---	---	---	---
Sum of PFAS (WA DER List)	---	0.0002	mg/kg	0.0347	---	---	---	---
EP231S: PFAS Surrogate								
13C4-PFOS	---	0.0002	%	99.5	---	---	---	---
13C8-PFOA	---	0.0002	%	97.5	---	---	---	---



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_MW015_231117	0874_MW021_231117	0874_QC510_231117	0874_QC300_231117	---
			Sampling date / time	17-Nov-2023 08:10	17-Nov-2023 08:25	17-Nov-2023 08:30	17-Nov-2023 08:30	---
Compound	CAS Number	LOR	Unit	ET2305576-001	ET2305576-002	ET2305576-003	ET2305576-004	-----
				Result	Result	Result	Result	---
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	18.5	544	<0.02	<0.02	---
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	22.8	821	<0.02	<0.02	---
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	192	11500	<0.01	<0.01	---
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	11.5	959	<0.02	<0.02	---
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	76.8	9580	<0.01	<0.01	---
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	5.4	205	<0.1	<0.1	---
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	8.87	346	<0.02	<0.02	---
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	45.4	1840	<0.02	<0.02	---
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	5.65	233	<0.02	<0.02	---
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	9.47	694	<0.01	<0.01	---
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.24	<21.0	<0.05	<0.05	---
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.24	<21.0	<0.05	<0.05	---



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_MW015_231117	0874_MW021_231117	0874_QC510_231117	0874_QC300_231117	---
		Sampling date / time		17-Nov-2023 08:10	17-Nov-2023 08:25	17-Nov-2023 08:30	17-Nov-2023 08:30	---
Compound	CAS Number	LOR	Unit	ET2305576-001	ET2305576-002	ET2305576-003	ET2305576-004	-----
				Result	Result	Result	Result	---
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.24	<21.0	<0.05	<0.05	---
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.24	<21.0	<0.05	<0.05	---
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.24	<21.0	<0.05	<0.05	---
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<8.40	<0.02	<0.02	---
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<8.40	<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	<0.50	<8.40	<0.05	<0.05	---
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.50	<8.40	<0.05	<0.05	---
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<8.40	<0.05	<0.05	---
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<8.40	<0.05	<0.05	---
EP231P: PFAS Sums								
Sum of PFAS	---	0.01	µg/L	396	26700	<0.01	<0.01	---
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	269	21100	<0.01	<0.01	---
Sum of PFAS (WA DER List)	---	0.01	µg/L	362	24900	<0.01	<0.01	---
EP231S: PFAS Surrogate								
13C4-PFOS	---	0.02	%	114	105	110	93.5	---
13C8-PFOA	---	0.02	%	100	96.6	96.9	99.3	---



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

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2305576	Page	: 1 of 5
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 21-Nov-2023
Site	: QLD_0874	Issue Date	: 27-Nov-2023
Sampler	: [REDACTED]	No. of samples received	: 5
Order number	: 60612487_2.1	No. of samples analysed	: 5

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: **SOIL**

Quality Control Sample Type	Method	Count		Rate (%)		Quality Control Specification
		QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	1	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.

Method	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) 0874_SD016_231117	17-Nov-2023	---	---	---	21-Nov-2023	01-Dec-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) 0874_SD016_231117	17-Nov-2023	22-Nov-2023	15-May-2024	✓	24-Nov-2023	01-Jan-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) 0874_SD016_231117	17-Nov-2023	22-Nov-2023	15-May-2024	✓	24-Nov-2023	01-Jan-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) 0874_SD016_231117	17-Nov-2023	22-Nov-2023	15-May-2024	✓	24-Nov-2023	01-Jan-2024	✓
EP231D: (n-2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) 0874_SD016_231117	17-Nov-2023	22-Nov-2023	15-May-2024	✓	24-Nov-2023	01-Jan-2024	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) 0874_SD016_231117	17-Nov-2023	22-Nov-2023	15-May-2024	✓	24-Nov-2023	01-Jan-2024	✓

Matrix: **WATER**

Evaluation: ■ = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							



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) 0874_MW015_231117	17-Nov-2023	23-Nov-2023	15-May-2024	✓	23-Nov-2023	15-May-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW021_231117, 0874_QC300_231117	0874_QC510_231117, 17-Nov-2023	23-Nov-2023	15-May-2024	✓	24-Nov-2023	15-May-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0874_MW015_231117	17-Nov-2023	23-Nov-2023	15-May-2024	✓	23-Nov-2023	15-May-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW021_231117, 0874_QC300_231117	0874_QC510_231117, 17-Nov-2023	23-Nov-2023	15-May-2024	✓	24-Nov-2023	15-May-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0874_MW015_231117	17-Nov-2023	23-Nov-2023	15-May-2024	✓	23-Nov-2023	15-May-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW021_231117, 0874_QC300_231117	0874_QC510_231117, 17-Nov-2023	23-Nov-2023	15-May-2024	✓	24-Nov-2023	15-May-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_MW015_231117	17-Nov-2023	23-Nov-2023	15-May-2024	✓	23-Nov-2023	15-May-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW021_231117, 0874_QC300_231117	0874_QC510_231117, 17-Nov-2023	23-Nov-2023	15-May-2024	✓	24-Nov-2023	15-May-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0874_MW015_231117	17-Nov-2023	23-Nov-2023	15-May-2024	✓	23-Nov-2023	15-May-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW021_231117, 0874_QC300_231117	0874_QC510_231117, 17-Nov-2023	23-Nov-2023	15-May-2024	✓	24-Nov-2023	15-May-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: **SOIL**

Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	8	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	1	100.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	1	0.00	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	6	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	6	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	6	33.33	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
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.



QUALITY CONTROL REPORT

Work Order	: ET2305576	Page	: 1 of 11
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5175 TOWNSVILLE QLD, AUSTRALIA 4870	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: —	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 21-Nov-2023
Order number	: 60612487_2.1	Date Analysis Commenced	: 21-Nov-2023
C-O-C number	: 60264	Issue Date	: 27-Nov-2023
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 5		
No. of samples analysed	: 5		



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 Soil Preparation, Stafford, QLD
[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 NIEPM. 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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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-EN38 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: 5440379)									
EB2336560-001	Anonymous	EA055: Moisture Content	---	0.1 (1.0)*	%	24.2	24.2	0.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5440378)									
ET2305576-005	0874_SD016_231117	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0004	0.0004	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0004	0.0004	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0054	0.0046	15.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0269	0.0238	12.3	0% - 20%
		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: 5440378)									
ET2305576-005	0874_SD016_231117	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0013	0.0012	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	0.0004	0.0004	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 (PFTriDA)	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



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 (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5440378)									
ET2305576-005	0874_SD016_231117	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5440378)									
ET2305576-005	0874_SD016_231117	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	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5443716)									
ET2305576-001	0874_MW015_231117	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01 (0.50)*	µg/L	192	194	1.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (0.50)*	µg/L	76.8	63.6	18.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02 (0.50)*	µg/L	18.5	18.3	1.4	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02 (0.50)*	µg/L	22.8	22.4	1.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02 (0.50)*	µg/L	11.5	10.8	6.6	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5445673)									
EB2336520-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.11	0.11	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	0.09	19.1	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	0.04	0.04	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: 5443716)									



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: 5443716) - continued									
ET2305576-001	0874_MW015_231117	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01 (0.50)*	µg/L	9.47	9.37	1.1	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02 (0.50)*	µg/L	8.87	8.47	4.7	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02 (0.50)*	µg/L	45.4	44.1	2.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02 (0.50)*	µg/L	5.65	5.23	7.7	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05 (1.24)*	µg/L	<1.24	<1.24	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1 (2.5)*	µg/L	5.4	5.4	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5445673)									
EB2336520-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.54	0.50	7.4	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.27	0.24	10.6	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 (PFTriDA)	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: 5443716)									
ET2305576-001	0874_MW015_231117	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05 (1.24)*	µg/L	<1.24	<1.24	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05 (1.24)*	µg/L	<1.24	<1.24	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05 (1.24)*	µg/L	<1.24	<1.24	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05 (1.24)*	µg/L	<1.24	<1.24	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5445673)									



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: 5445673) - continued									
EB2336520-001	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5443716)									
ET2305576-001	0874_MW015_231117	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05 (0.50)*	µg/L	<0.50	<0.50	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5445673)									
EB2336520-001	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: 5443716)									
ET2305576-001	0874_MW015_231117	EP231X: Sum of PFAS	---	0.01 (0.50)*	µg/L	396	382	3.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (0.50)*	µg/L	269	258	4.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	---	0.01 (0.50)*	µg/L	362	348	3.8	0% - 20%
EP231P: PFAS Sums (QC Lot: 5445673)									
EB2336520-001	Anonymous	EP231X: Sum of PFAS	---	0.01	µg/L	1.13	1.07	5.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.18	0.20	10.5	0% - 20%

Page : 6 of 11
Work Order : ET2305576
Client : AECOM AUSTRALIA PTY LTD
Project : QLD_0874_PFASOMP_23



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 (%)
EP231P: PFAS Sums (QC Lot: 5445673) - continued									
EB2336520-001	Anonymous	EP231X: Sum of PFAS (WA DER List)	—	0.01	µg/L	1.09	1.03	5.7	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: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5440378)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	106	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	123	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	111	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	127	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	111	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	108	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5440378)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	118	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	123	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	131	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	69.0	135
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	134	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	121	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5440378)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	129	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	133	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	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	130	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5440378)								



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method/Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5440378) - continued									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	108	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	115	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	123	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	103	54.8	124	

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method/Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5443716)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	89.9	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	86.7	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	73.3	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	79.2	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	81.2	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	78.8	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5445673)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.4	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	87.4	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	77.3	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	81.3	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	81.2	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	87.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5443716)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	76.6	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	75.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	75.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	82.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	79.8	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	83.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	79.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	71.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.2	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	82.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	71.5	71.0	132	

EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5445673)									
---	--	--	--	--	--	--	--	--	--



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5445673) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	86.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	78.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	76.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	83.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	87.8	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	77.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	86.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	78.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	77.0	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5443716)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	74.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	85.5	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	78.0	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	81.6	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	71.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	80.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5445673)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	71.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	87.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	94.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	79.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.8	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	67.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	83.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5443716)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LDR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report			
				Report	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				Result			LCS	Low
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5443716) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	87.9	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	86.4	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	80.4	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	80.3	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5445673)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	78.3	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	89.4	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	83.3	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	83.2	64.2	133
EP231P: PFAS Sums (QCLot: 5443716)								
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: 5445673)								
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	Spike Recovery (%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5445673)							
EB2336520-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	108	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	77.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	73.5	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	84.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	89.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5445673)							
EB2336520-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	74.5	73.0	129



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5445673) - continued							
EB2336520-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	77.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	73.2	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	108	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	115	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	78.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	73.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.25 µg/L	89.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	72.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5445673)							
EB2336520-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	67.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	85.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	79.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	76.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	92.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	68.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	88.6	61.0	135
EP231D: (n-2) Fluorotelomer Sulfonic Acids (QCLot: 5445673)							
EB2336520-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	85.7	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	79.7	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	71.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	71.6	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2305576

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5175 TOWNSVILLE QLD, AUSTRALIA 4870	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]@aecom.com	E-mail	: [REDACTED]@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8616
Facsimile	: ----	Facsimile	:
Project	: QLD_0874_PFASOMP_23	Page	: 1 of 4
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 60264	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 21-Nov-2023 08:00	Issue Date	: 21-Nov-2023
Client Requested Due Date	: 24-Nov-2023	Scheduled Reporting Date	: 24-Nov-2023

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 2.3°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 5 / 5

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
- ***Samples were originally received by ALS Townsville on 17/11/23, and forwarded to ALS Brisbane for analysis.**
- **A 15% surcharge applies for results returned within 3 days.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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 - EAS5-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2305576-005	17-Nov-2023 08:40	0874_SD016_231117	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2305576-001	17-Nov-2023 08:10	0874_MW015_231117	✓
ET2305576-002	17-Nov-2023 08:25	0874_MW021_231117	✓
ET2305576-003	17-Nov-2023 08:30	0874_QC510_231117	✓
ET2305576-004	17-Nov-2023 08:30	0874_QC300_231117	✓

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] Email [REDACTED]@aecom.com
- *AU Certificate of Analysis - NATA (COA) Email [REDACTED]@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email [REDACTED]@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email [REDACTED]@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email [REDACTED]@aecom.com
- Chain of Custody (CoC) (COC) Email [REDACTED]@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email [REDACTED]@aecom.com
- EDI Format - ESDAT (ESDAT) Email [REDACTED]@aecom.com

[REDACTED] Email [REDACTED]@aecom.com
- *AU Certificate of Analysis - NATA (COA) Email [REDACTED]@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email [REDACTED]@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email [REDACTED]@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email [REDACTED]@aecom.com
- Chain of Custody (CoC) (COC) Email [REDACTED]@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email [REDACTED]@aecom.com
- EDI Format - ESDAT (ESDAT) Email [REDACTED]@aecom.com

DERP REPORTS

- *AU Certificate of Analysis - NATA (COA) Email derp.labreports@escis.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email derp.labreports@escis.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email derp.labreports@escis.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email derp.labreports@escis.com.au
- Chain of Custody (CoC) (COC) Email derp.labreports@escis.com.au
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email derp.labreports@escis.com.au
- EDI Format - ESDAT (ESDAT) Email derp.labreports@escis.com.au

[REDACTED] Email [REDACTED]@aecom.com
- *AU Certificate of Analysis - NATA (COA) Email [REDACTED]@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email [REDACTED]@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email [REDACTED]@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email [REDACTED]@aecom.com
- Chain of Custody (CoC) (COC) Email [REDACTED]@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email [REDACTED]@aecom.com
- EDI Format - ESDAT (ESDAT) Email [REDACTED]@aecom.com

[REDACTED] Email [REDACTED]@aecom.com
- *AU Certificate of Analysis - NATA (COA) Email [REDACTED]@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email [REDACTED]@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email [REDACTED]@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email [REDACTED]@aecom.com
- Chain of Custody (CoC) (COC) Email [REDACTED]@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email [REDACTED]@aecom.com
- EDI Format - ESDAT (ESDAT) Email [REDACTED]@aecom.com

[REDACTED] Email [REDACTED]@aecom.com
- *AU Certificate of Analysis - NATA (COA) Email [REDACTED]@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email [REDACTED]@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email [REDACTED]@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email [REDACTED]@aecom.com
- Chain of Custody (CoC) (COC) Email [REDACTED]@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email [REDACTED]@aecom.com
- EDI Format - ESDAT (ESDAT) Email [REDACTED]@aecom.com



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n.2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(SOIL) EP231B: Perfluoroalkyl Carboxylic Acids

(SOIL) EP231D: (n.2) Fluorotelomer Sulfonic Acids

(SOIL) EP231C: Perfluoroalkyl Sulfonamides

(SOIL) EP231A: Perfluoroalkyl Sulfonic Acids

(SOIL) EP231P: PFAS Sums

(SOIL) EA055: Moisture Content (Dried @ 105-110°C)

AECOM Aust Pty Ltd TSV
 Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810



NATA Accredited
 Accreditation Number 1261
 Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the LAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: XXXXXXXXXX

Report **1035859-W-V2**
 Project name **QLD_0874_PFASOMP_23**
 Received Date **Oct 17, 2023**

Client Sample ID			0874_QC200_2 31006	0874_QC203_2 31009	0874_QC205_2 31010	0874_QC206_2 31010
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039735	B23- Oc0039738	B23- Oc0039740	B23- Oc0039741
Date Sampled			Oct 06, 2023	Oct 09, 2023	Oct 10, 2023	Oct 10, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	0.60	< 0.05
Perfluoropentanoic acid (PFPeA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	0.83	< 0.01
Perfluorohexanoic acid (PFHxA) ¹¹¹	0.01	ug/L	0.02	0.02	3.8	< 0.01
Perfluoroheptanoic acid (PFHpA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	0.28	< 0.01
Perfluorooctanoic acid (PFOA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	¹⁰⁰⁰ 0.11	< 0.01
Perfluorononanoic acid (PFNA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTriDA) ¹¹²	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	105	105	80	98
13C5-PFPeA (surr.)	1	%	123	124	89	111
13C5-PFHxA (surr.)	1	%	127	128	64	131
13C4-PFHpA (surr.)	1	%	142	139	97	129
13C8-PFOA (surr.)	1	%	140	134	82	141
13C5-PFNA (surr.)	1	%	132	130	66	143
13C8-PFDA (surr.)	1	%	100	102	58	137
13C2-PFUnDA (surr.)	1	%	105	109	60	139
13C2-PFDoDA (surr.)	1	%	91	91	45	122
13C2-PFTeDA (surr.)	1	%	87	82	INT	102
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	99	100	66	119
D3-N-MeFOSA (surr.)	1	%	97	102	35	62
D5-N-EtFOSA (surr.)	1	%	138	145	44	87

Client Sample ID			0874_QC200_2 31006	0874_QC203_2 31009	0874_QC205_2 31010	0874_QC206_2 31010
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039735	B23- Oc0039738	B23- Oc0039740	B23- Oc0039741
Date Sampled			Oct 06, 2023	Oct 09, 2023	Oct 10, 2023	Oct 10, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D7-N-MeFOSE (surr.)	1	%	101	97	50	98
D9-N-EiFOSE (surr.)	1	%	86	86	41	81
D5-N-EiFOSAA (surr.)	1	%	131	124	42	179
D3-N-MeFOSAA (surr.)	1	%	103	103	39	121
Perfluoroalkyl sulfonic acids (PFSA's)						
Perfluorobutanesulfonic acid (PFBS) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	1.3	< 0.01
Perfluorononanesulfonic acid (PFNS) ¹¹⁸	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ¹¹⁸	0.01	ug/L	< 0.01	< 0.01	0.52	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ¹¹⁸	0.01	ug/L	< 0.01	< 0.01	1.1	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ¹¹¹	0.01	ug/L	¹⁰⁰ 0.04	¹⁰⁰ 0.04	¹⁰⁰ 13	¹⁰⁰ 0.02
Perfluoroheptanesulfonic acid (PFHpS) ¹¹⁸	0.01	ug/L	< 0.01	< 0.01	¹⁰⁰ 0.05	< 0.01
Perfluorooctanesulfonic acid (PFOS) ¹¹¹	0.01	ug/L	¹⁰⁰ 0.04	¹⁰⁰ 0.04	¹⁰⁰ 0.03	¹⁰⁰ 0.04
Perfluorodecanesulfonic acid (PFDS) ¹¹⁸	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	141	137	78	140
18O2-PFHxS (surr.)	1	%	131	126	55	128
13C8-PFOS (surr.)	1	%	113	111	97	147
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	112	103	16	70
13C2-6:2 FTSA (surr.)	1	%	112	107	15	105
13C2-8:2 FTSA (surr.)	1	%	121	116	108	126
13C2-10:2 FTSA (surr.)	1	%	93	94	61	145
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	0.08	0.08	13.03	0.06
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.04	0.04	0.14	0.04
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.08	0.08	13.14	0.06
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	0.1	0.1	19.95	0.06
Sum of PFASs (n=30)*	0.1	ug/L	0.1	0.1	21.62	< 0.1

Client Sample ID			0874_QC208_2 31011	0874_QC209_2 31012	⁰⁰¹ 0874_QC211 _231012	0874_QC250_2 31009
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039743	B23- Oc0039744	B23- Oc0039746	B23- Oc0039747
Date Sampled			Oct 11, 2023	Oct 12, 2023	Oct 12, 2023	Oct 09, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ¹¹¹	0.05	ug/L	0.98	< 0.05	< 0.5	< 0.05
Perfluoropentanoic acid (PFPeA) ¹¹¹	0.01	ug/L	2.0	0.01	< 0.1	< 0.01
Perfluorohexanoic acid (PFHxA) ¹¹¹	0.01	ug/L	4.8	0.04	< 0.1	0.03
Perfluoroheptanoic acid (PFHpA) ¹¹¹	0.01	ug/L	0.54	< 0.01	< 0.1	< 0.01
Perfluorooctanoic acid (PFOA) ¹¹¹	0.01	ug/L	¹⁰⁰ 1.2	¹⁰⁰ 0.02	< 0.1	< 0.01

Client Sample ID			0874_QC208_2 31011	0874_QC209_2 31012	0874_QC211 _231012	0874_QC250_2 31009
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039743	B23- Oc0039744	B23- Oc0039746	B23- Oc0039747
Date Sampled			Oct 11, 2023	Oct 12, 2023	Oct 12, 2023	Oct 09, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorononanoic acid (PFNA) ¹¹¹	0.01	ug/L	0.04	< 0.01	< 0.1	< 0.01
Perfluorodecanoic acid (PFDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
Perfluoroundecanoic acid (PFUnDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
Perfluorododecanoic acid (PFDoDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
Perfluorotridecanoic acid (PFTrDA) ¹¹⁸	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
13C4-PFBA (surr.)	1	%	51	94	57	95
13C5-PFPeA (surr.)	1	%	116	117	89	109
13C5-PFHxA (surr.)	1	%	101	138	48	127
13C4-PFHpA (surr.)	1	%	59	131	65	117
13C8-PFOA (surr.)	1	%	100	130	56	118
13C5-PFNA (surr.)	1	%	65	131	54	126
13C6-PFDA (surr.)	1	%	38	110	51	103
13C2-PFUnDA (surr.)	1	%	115	111	46	109
13C2-PFDoDA (surr.)	1	%	127	92	36	97
13C2-PFTeDA (surr.)	1	%	105	78	43	79
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ¹¹¹	0.05	ug/L	0.15	< 0.05	< 0.2	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
13C8-FOSA (surr.)	1	%	84	104	41	94
D3-N-MeFOSA (surr.)	1	%	64	71	46	100
D5-N-EtFOSA (surr.)	1	%	87	95	59	144
D7-N-MeFOSE (surr.)	1	%	62	105	47	95
D9-N-EtFOSE (surr.)	1	%	67	82	41	83
D5-N-EtFOSAA (surr.)	1	%	107	125	50	128
D3-N-MeFOSAA (surr.)	1	%	125	107	48	108
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ¹¹¹	0.01	ug/L	1.6	0.02	< 0.1	0.01
Perfluorononanesulfonic acid (PFNS) ¹¹⁸	0.01	ug/L	^{NO9} 0.21	< 0.01	< 0.1	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ¹¹⁸	0.01	ug/L	0.89	< 0.01	< 0.1	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ¹¹⁸	0.01	ug/L	1.2	0.01	< 0.1	0.01
Perfluorohexanesulfonic acid (PFHxS) ¹¹¹	0.01	ug/L	^{NO9} 1.3	^{NO9} 0.11	< 0.1	^{NO9} 0.14
Perfluoroheptanesulfonic acid (PFHpS) ¹¹⁸	0.01	ug/L	^{NO9} 1.3	< 0.01	< 0.1	< 0.01
Perfluorooctanesulfonic acid (PFOS) ¹¹¹	0.01	ug/L	^{NO9} 35	^{NO9} 0.09	< 0.1	^{NO9} 0.09
Perfluorodecanesulfonic acid (PFDS) ¹¹⁸	0.01	ug/L	^{NO9} < 0.1	< 0.01	< 0.1	< 0.01
13C3-PFBS (surr.)	1	%	117	150	58	129
18O2-PFHxS (surr.)	1	%	95	123	52	102
13C8-PFOS (surr.)	1	%	116	117	63	115

Client Sample ID			0874_QC208_2 31011	0874_QC209_2 31012	⁰⁰¹ 0874_QC211 _231012	0874_QC250_2 31009
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039743	B23- Oc0039744	B23- Oc0039746	B23- Oc0039747
Date Sampled			Oct 11, 2023	Oct 12, 2023	Oct 12, 2023	Oct 09, 2023
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4.2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
1H,1H,2H,2H-perfluorooctanesulfonic acid(6.2 FTSA) ^{N11}	0.05	ug/L	0.10	< 0.05	< 0.5	< 0.05
1H,1H,2H,2H-perfluorodecanesulfonic acid (8.2 FTSA) ^{N11}	0.01	ug/L	0.04	< 0.01	< 0.1	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10.2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
13C2-4.2 FTSA (surr.)	1	%	48	63	24	77
13C2-6.2 FTSA (surr.)	1	%	129	72	19	89
13C2-8.2 FTSA (surr.)	1	%	175	104	37	117
13C2-10.2 FTSA (surr.)	1	%	162	90	29	104
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	48	0.2	< 0.1	0.23
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	36.2	0.11	< 0.1	0.09
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	49.2	0.22	< 0.1	0.23
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	59.26	0.29	< 0.5	0.27
Sum of PFASs (n=30)*	0.1	ug/L	63.05	0.3	< 0.5	0.28

Client Sample ID			0874_QC251_2 31010	0874_QC252_2 31010	⁰⁰¹ 0874_QC253 _231011	0874_QC254_2 31011
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039748	B23- Oc0039749	B23- Oc0039750	B23- Oc0039751
Date Sampled			Oct 10, 2023	Oct 10, 2023	Oct 11, 2023	Oct 11, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.45	1.4	10	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.82	2.8	38	0.04
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	4.0	10	290	0.16
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	0.59	1.5	38	0.02
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{NO} 1.7	^{NO} 5.1	100	^{NO} 0.04
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	0.04	0.41	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.14	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	0.17	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.27	< 0.01
13C4-PFBA (surr.)	1	%	91	121	114	92
13C5-PFPeA (surr.)	1	%	82	132	62	81
13C5-PFHxA (surr.)	1	%	79	94	100	88
13C4-PFHpA (surr.)	1	%	86	131	61	105
13C8-PFOA (surr.)	1	%	95	87	51	93
13C5-PFNA (surr.)	1	%	96	90	71	110
13C6-PFDA (surr.)	1	%	45	22	57	97
13C2-PFUnDA (surr.)	1	%	103	84	87	101
13C2-PFDoDA (surr.)	1	%	96	83	87	89
13C2-PFTeDA (surr.)	1	%	86	83	76	76

Client Sample ID			0874_QC251_2 31010	0874_QC252_2 31010	0010874_QC253 _231011	0874_QC254_2 31011
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Oc0039748	B23- Oc0039749	B23- Oc0039750	B23- Oc0039751
Date Sampled			Oct 10, 2023	Oct 10, 2023	Oct 11, 2023	Oct 11, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ¹¹¹	0.05	ug/L	0.19	0.57	0.20	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.2	< 0.05
13C8-FOSA (surr.)	1	%	99	83	111	103
D3-N-MeFOSA (surr.)	1	%	41	48	90	96
D5-N-EtFOSA (surr.)	1	%	60	72	106	133
D7-N-MeFOSE (surr.)	1	%	80	60	100	92
D9-N-EtFOSE (surr.)	1	%	67	65	100	78
D5-N-EtFOSAA (surr.)	1	%	137	126	107	123
D3-N-MeFOSAA (surr.)	1	%	108	87	93	104
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ¹¹¹	0.01	ug/L	1.4	3.7	92	0.36
Perfluorononanesulfonic acid (PFNS) ¹¹⁹	0.01	ug/L	< 0.1	< 0.1	^{NO9} < 0.1	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ¹¹⁹	0.01	ug/L	0.86	2.0	36	0.16
Perfluoropentanesulfonic acid (PFPeS) ¹¹⁹	0.01	ug/L	1.4	4.0	96	0.13
Perfluorohexanesulfonic acid (PFHxS) ¹¹¹	0.01	ug/L	^{NO9} 17	^{NO9} 47	^{NO9} 2000	^{NO9} 1.1
Perfluoroheptanesulfonic acid (PFHpS) ¹¹⁹	0.01	ug/L	^{NO9} 1.8	^{NO9} 2.8	^{NO9} 210	^{NO9} 0.06
Perfluorooctanesulfonic acid (PFOS) ¹¹¹	0.01	ug/L	^{NO9} 23	^{NO9} 120	^{NO9} 2000	^{NO9} 0.57
Perfluorodecanesulfonic acid (PFDS) ¹¹⁹	0.01	ug/L	< 0.1	< 0.1	^{NO9} < 0.1	< 0.01
13C3-PFBS (surr.)	1	%	94	91	70	92
18O2-PFHxS (surr.)	1	%	66	103	86	73
13C8-PFOS (surr.)	1	%	84	91	97	91
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ¹¹¹	0.05	ug/L	< 0.05	< 0.05	< 0.1	< 0.05
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ¹¹¹	0.01	ug/L	< 0.01	< 0.01	< 0.1	< 0.01
13C2-4:2 FTSA (surr.)	1	%	60	49	44	68
13C2-6:2 FTSA (surr.)	1	%	74	79	64	85
13C2-8:2 FTSA (surr.)	1	%	93	100	63	103
13C2-10:2 FTSA (surr.)	1	%	94	88	83	94
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	40	167	4000	1.67
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	24.7	125.1	2100	0.61
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	41.7	172.1	4100	1.71
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	48.96	191.5	4568	2.29
Sum of PFASs (n=30)*	0.1	ug/L	53.21	200.91	4911.19	2.64

Client Sample ID			0874_QC255_2 31012	0874_QC256_2 31012
Sample Matrix			Water	Water
Eurofins Sample No.			B23- Oc0039752	B23- Oc0039753
Date Sampled			Oct 12, 2023	Oct 12, 2023
Test/Reference	LOR	Unit		
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA) ^{NI1}	0.05	ug/L	0.25	< 0.05
Perfluoropentanoic acid (PFPeA) ^{NI1}	0.01	ug/L	0.25	< 0.01
Perfluorohexanoic acid (PFHxA) ^{NI1}	0.01	ug/L	1.1	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{NI1}	0.01	ug/L	0.15	< 0.01
Perfluorooctanoic acid (PFOA) ^{NI1}	0.01	ug/L	^{NO9} 0.50	< 0.01
Perfluorononanoic acid (PFNA) ^{NI1}	0.01	ug/L	0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{NI1}	0.01	ug/L	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{NI1}	0.01	ug/L	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{NI1}	0.01	ug/L	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA) ^{NI18}	0.01	ug/L	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{NI11}	0.01	ug/L	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	103	91
13C5-PFPeA (surr.)	1	%	94	87
13C5-PFHxA (surr.)	1	%	70	112
13C4-PFHpA (surr.)	1	%	104	103
13C8-PFOA (surr.)	1	%	83	117
13C5-PFNA (surr.)	1	%	137	113
13C6-PFDA (surr.)	1	%	64	105
13C2-PFUnDA (surr.)	1	%	131	100
13C2-PFDoDA (surr.)	1	%	128	85
13C2-PFTeDA (surr.)	1	%	132	75
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{NI11}	0.05	ug/L	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	109	94
D3-N-MeFOSA (surr.)	1	%	65	91
D5-N-EtFOSA (surr.)	1	%	88	110
D7-N-MeFOSE (surr.)	1	%	73	91
D9-N-EtFOSE (surr.)	1	%	70	84
D5-N-EtFOSAA (surr.)	1	%	116	120
D3-N-MeFOSAA (surr.)	1	%	127	100
Perfluoroalkyl sulfonic acids (PFSAs)				
Perfluorobutanesulfonic acid (PFBS) ^{NI11}	0.01	ug/L	0.34	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{NI15}	0.01	ug/L	^{NO9} < 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{NI15}	0.01	ug/L	0.16	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{NI15}	0.01	ug/L	0.31	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{NI11}	0.01	ug/L	^{NO9} 5.0	^{NO9} < 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{NI15}	0.01	ug/L	^{NO9} 0.33	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{NI11}	0.01	ug/L	^{NO9} 17	< 0.01
Perfluorodecanesulfonic acid (PFDS) ^{NI15}	0.01	ug/L	^{NO9} < 0.01	< 0.01

Client Sample ID			0874_QC255_2 31012	0874_QC256_2 31012
Sample Matrix			Water	Water
Eurofins Sample No.			B23- Oc0039752	B23- Oc0039753
Date Sampled			Oct 12, 2023	Oct 12, 2023
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonic acids (PFASs)				
13C3-PFBS (surr.)	1	%	92	111
18O2-PFHxS (surr.)	1	%	89	96
13C8-PFOS (surr.)	1	%	78	104
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^(n:1)	0.01	ug/L	< 0.01	< 0.01
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ^(n:1)	0.05	ug/L	< 0.05	< 0.05
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^(n:1)	0.01	ug/L	< 0.01	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^(n:1)	0.01	ug/L	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	98	63
13C2-6:2 FTSA (surr.)	1	%	120	79
13C2-8:2 FTSA (surr.)	1	%	135	90
13C2-10:2 FTSA (surr.)	1	%	146	85
PFASs Summations				
Sum (PFHxS + PFOS)*	0.01	ug/L	22	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	17.5	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	22.5	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	24.59	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	25.4	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Oct 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Oct 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFASs)	Brisbane	Oct 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Oct 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rorke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gale Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
---	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	0874_QC200_231006	Oct 06, 2023		Water	B23-Oc0039735			X
2	0874_QC201_231006	Oct 06, 2023		Soil	B23-Oc0039736		X	X
3	0874_QC202_231009	Oct 09, 2023		Soil	B23-Oc0039737		X	X
4	0874_QC203_231009	Oct 09, 2023		Water	B23-Oc0039738			X
5	0874_QC204_231009	Oct 09, 2023		Soil	B23-Oc0039739		X	X
6	0874_QC205_231010	Oct 10, 2023		Water	B23-Oc0039740			X
7	0874_QC206_231010	Oct 10, 2023		Water	B23-Oc0039741			X
8	0874_QC207_231011	Oct 11, 2023		Soil	B23-Oc0039742		X	X

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rourke Road Panmure Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gale Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	0874_QC208_2310T1	Oct 11, 2023		Water	B23-Oc0039743			X
10	0874_QC209_2310T2	Oct 12, 2023		Water	B23-Oc0039744			X
11	0874_QC210_2310T2	Oct 12, 2023		Soil	B23-Oc0039745		X	X
12	0874_QC211_2310T2	Oct 12, 2023		Water	B23-Oc0039746			X
13	0874_QC250_2310O9	Oct 09, 2023		Water	B23-Oc0039747			X
14	0874_QC251_2310T0	Oct 10, 2023		Water	B23-Oc0039748			X
15	0874_QC252_2310T0	Oct 10, 2023		Water	B23-Oc0039749			X
16	0874_QC253_2310T1	Oct 11, 2023		Water	B23-Oc0039750			X
17	0874_QC254_2310T1	Oct 11, 2023		Water	B23-Oc0039751			X
18	0874_QC255_2310T2	Oct 12, 2023		Water	B23-Oc0039752			X

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Wishpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Auckland 35 O'Rourke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Oct 17, 2023 8:30 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1035859	Due:	Oct 24, 2023
		Phone:	0428 644 967	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
Project Name:	QLD_0874_PFSUMP_23			Eurofins Analytical Services Manager: [REDACTED]	

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
19	0874_QC256_2310T2	Oct 12, 2023		Water	B23-Oc0039753			X
20	0874_QC212_2310T3	Oct 13, 2023		Water	B23-Oc0039754	X		
21	TRIP BLANK	Oct 06, 2023		Water	B23-Oc0039779	X		
Test Counts						2	5	19

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

µg/L: micrograms per litre

ppm: parts per million

ppb: parts per billion

%: Percentage

org/100 mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100 mL: Most Probable Number of organisms per 100 millilitres

CFU: Colony forming unit

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPa, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30%; however the following acceptance guidelines are equally

applicable: Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported, have been reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05	0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01	0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01	0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01	0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01	0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01	0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01	0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01	0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01	0.01	Pass	
Perfluorotridecanoic acid (PFTriDA)	ug/L	< 0.01	0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01	0.01	Pass	
Method Blank					
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05	0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05	0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05	0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05	0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05	0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05	0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05	0.05	Pass	
Method Blank					
Perfluoroalkyl sulfonic acids (PFSAs)					
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01	0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01	0.01	Pass	
Perfluoropropenesulfonic acid (PFPrS)	ug/L	< 0.01	0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01	0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01	0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01	0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01	0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01	0.01	Pass	
Method Blank					
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01	0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05	0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01	0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01	0.01	Pass	
LCS - % Recovery					
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)	%	86	50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	109	50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	110	50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	104	50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	103	50-150	Pass	
Perfluorononanoic acid (PFNA)	%	103	50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	90	50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	96	50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	87	50-150	Pass	
Perfluorotridecanoic acid (PFTriDA)	%	65	50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	78	50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	86			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	117			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	88			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	99			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	93			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	83			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	106			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA)								
Perfluorobutanesulfonic acid (PFBS)	%	87			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	102			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	98			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	81			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	105			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	114			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	98			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	67			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	103			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	132			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	116			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	85			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCA)								
Perfluorobutanoic acid (PFBA)	B23-Oc0039753	CP	%	79		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Oc0039753	CP	%	95		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Oc0039753	CP	%	103		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Oc0039753	CP	%	94		50-150	Pass	
Perfluorooctanoic acid (PFOA)	B23-Oc0039753	CP	%	93		50-150	Pass	
Perfluorononanoic acid (PFNA)	B23-Oc0039753	CP	%	92		50-150	Pass	
Perfluorodecanoic acid (PFDA)	B23-Oc0039753	CP	%	78		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Oc0039753	CP	%	88		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Oc0039753	CP	%	87		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	B23-Oc0039753	CP	%	89		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Oc0039753	CP	%	90		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	B23-Oc0039753	CP	%	79		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Oc0039753	CP	%	105		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Oc0039753	CP	%	83		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Oc0039753	CP	%	102		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Oc0039753	CP	%	92		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Oc0039753	CP	%	82			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Oc0039753	CP	%	97			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	B23-Oc0039753	CP	%	87			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	B23-Oc0039753	CP	%	88			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B23-Oc0039753	CP	%	66			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B23-Oc0039753	CP	%	68			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B23-Oc0039753	CP	%	103			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B23-Oc0039753	CP	%	117			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B23-Oc0039753	CP	%	82			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	B23-Oc0039753	CP	%	81			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Oc0039753	CP	%	104			50-150	Pass	
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Oc0039753	CP	%	113			50-150	Pass	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Oc0039753	CP	%	104			50-150	Pass	
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Oc0039753	CP	%	83			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA's)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	B23-Oc0039752	CP	ug/L	0.25	0.25	1.2	30%	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Oc0039752	CP	ug/L	0.25	0.25	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Oc0039752	CP	ug/L	1.1	1.1	2.4	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Oc0039752	CP	ug/L	0.15	0.15	3.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	B23-Oc0039752	CP	ug/L	0.50	0.51	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	B23-Oc0039752	CP	ug/L	0.01	0.01	8.5	30%	Pass	
Perfluorodecanoic acid (PFDA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTriDA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Oc0039752	CP	ug/L	0.34	0.34	1.3	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Oc0039752	CP	ug/L	0.16	0.16	1.3	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Oc0039752	CP	ug/L	0.31	0.31	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Oc0039752	CP	ug/L	5.0	4.7	6.7	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Oc0039752	CP	ug/L	0.33	0.33	2.2	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Oc0039752	CP	ug/L	17	15	11	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Oc0039752	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Oc0039752	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Comments

This report has been revised (V2) to amend project name.

Sample integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:


 Analytical Services Manager
 Senior Analyst-PFAS



Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

AECOM Aust Pty Ltd TSV
 Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810



NATA Accredited
 Accreditation Number 1261
 Site Number 20734

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the IAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: XXXXXXXXXX

Report **1035859-S-V2**
 Project name **QLD_0874_PFASOMP_23**
 Received Date **Oct 17, 2023**

Client Sample ID			0874_QC201_2 31006	0874_QC202_2 31009	0874_QC204_2 31009	0874_QC207_2 31011
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B23- Oc0039736	B23- Oc0039737	B23- Oc0039739	B23- Oc0039742
Date Sampled			Oct 06, 2023	Oct 09, 2023	Oct 09, 2023	Oct 11, 2023
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	43	27	19	23
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	29
Perfluoroheptanoic acid (PFHpA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	10912
Perfluorononanoic acid (PFNA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTriDA) ⁽¹⁾⁸	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	52	79	21	78
13C5-PFPeA (surr.)	1	%	72	101	35	109
13C5-PFHxA (surr.)	1	%	70	98	45	75
13C4-PFHpA (surr.)	1	%	64	80	41	82
13C8-PFOA (surr.)	1	%	52	73	53	64
13C5-PFNA (surr.)	1	%	50	64	45	66
13C6-PFDA (surr.)	1	%	66	72	50	57
13C2-PFUnDA (surr.)	1	%	82	91	49	95
13C2-PFDoDA (surr.)	1	%	96	114	58	114
13C2-PFTeDA (surr.)	1	%	111	113	69	127
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ⁽¹⁾	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ⁽¹⁾	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ⁽¹⁾	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	75	50	49	139

Client Sample ID			0874_QC201_2 31006	0874_QC202_2 31009	0874_QC204_2 31009	0874_QC207_2 31011
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B23- Oc0039736	B23- Oc0039737	B23- Oc0039739	B23- Oc0039742
Date Sampled			Oct 06, 2023	Oct 09, 2023	Oct 09, 2023	Oct 11, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D3-N-MeFOSA (surr.)	1	%	57	37	63	64
D5-N-EiFOSA (surr.)	1	%	54	50	53	58
D7-N-MeFOSE (surr.)	1	%	45	41	51	72
D9-N-EiFOSE (surr.)	1	%	44	53	40	62
D5-N-EiFOSAA (surr.)	1	%	92	104	36	98
D3-N-MeFOSAA (surr.)	1	%	75	97	46	95
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ¹¹¹	5	ug/kg	< 5	< 5	< 5	6.5
Perfluorononanesulfonic acid (PFNS) ¹¹⁸	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ¹¹⁸	5	ug/kg	< 5	< 5	< 5	8.8
Perfluoropentanesulfonic acid (PFPeS) ¹¹⁸	5	ug/kg	< 5	< 5	< 5	¹⁰⁹ 7.8
Perfluorohexanesulfonic acid (PFHxS) ¹¹¹	5	ug/kg	< 5	< 5	< 5	¹⁰⁹ 340
Perfluoroheptanesulfonic acid (PFHpS) ¹¹⁸	5	ug/kg	< 5	< 5	< 5	¹⁰⁹ 48
Perfluorooctanesulfonic acid (PFOS) ¹¹¹	5	ug/kg	< 5	< 5	¹⁰⁹ 7.5	¹⁰⁹ 1200
Perfluorodecanesulfonic acid (PFDS) ¹¹⁸	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	63	76	41	80
18O2-PFHxS (surr.)	1	%	93	108	70	74
13C8-PFOS (surr.)	1	%	78	97	54	54
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ¹¹¹	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ¹¹¹	10	ug/kg	< 10	< 10	< 10	< 10
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ¹¹¹	5	ug/kg	< 5	< 5	< 5	< 5
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ¹¹¹	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	37	59	36	90
13C2-6:2 FTSA (surr.)	1	%	35	31	46	85
13C2-8:2 FTSA (surr.)	1	%	65	84	48	77
13C2-10:2 FTSA (surr.)	1	%	97	105	45	106
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	7.5	1540
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	7.5	1212
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	7.5	1552
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	1587.5
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	1652.1

Client Sample ID			0874_QC210_2 31012
Sample Matrix			Soil
Eurofins Sample No.			B23- Oc0039745
Date Sampled			Oct 12, 2023
Test/Reference	LOR	Unit	
Sample Properties			
% Moisture	1	%	24
Perfluoroalkyl carboxylic acids (PFCAs)			
Perfluorobutanoic acid (PFBA) ^{NI1}	5	ug/kg	< 5
Perfluoropentanoic acid (PFPeA) ^{NI1}	5	ug/kg	< 5
Perfluorohexanoic acid (PFHxA) ^{NI1}	5	ug/kg	< 5
Perfluoroheptanoic acid (PFHpA) ^{NI1}	5	ug/kg	< 5
Perfluorooctanoic acid (PFOA) ^{NI1}	5	ug/kg	< 5
Perfluorononanoic acid (PFNA) ^{NI1}	5	ug/kg	< 5
Perfluorodecanoic acid (PFDA) ^{NI1}	5	ug/kg	< 5
Perfluoroundecanoic acid (PFUnDA) ^{NI1}	5	ug/kg	< 5
Perfluorododecanoic acid (PFDoDA) ^{NI1}	5	ug/kg	< 5
Perfluorotridecanoic acid (PFTeDA) ^{NI12}	5	ug/kg	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{NI11}	5	ug/kg	< 5
13C4-PFBA (surr.)	1	%	40
13C5-PFPeA (surr.)	1	%	57
13C5-PFHxA (surr.)	1	%	55
13C4-PFHpA (surr.)	1	%	65
13C8-PFOA (surr.)	1	%	62
13C5-PFNA (surr.)	1	%	69
13C6-PFDA (surr.)	1	%	83
13C2-PFUnDA (surr.)	1	%	67
13C2-PFDoDA (surr.)	1	%	63
13C2-PFTeDA (surr.)	1	%	70
Perfluoroalkyl sulfonamido substances			
Perfluorooctane sulfonamide (FOSA) ^{NI1}	5	ug/kg	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{NI1}	5	ug/kg	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{NI1}	5	ug/kg	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{NI1}	5	ug/kg	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{NI1}	5	ug/kg	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{NI1}	10	ug/kg	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{NI1}	10	ug/kg	< 10
13C8-FOSA (surr.)	1	%	55
D3-N-MeFOSA (surr.)	1	%	83
D5-N-EtFOSA (surr.)	1	%	86
D7-N-MeFOSE (surr.)	1	%	88
D9-N-EtFOSE (surr.)	1	%	72
D5-N-EtFOSAA (surr.)	1	%	60
D3-N-MeFOSAA (surr.)	1	%	82
Perfluoroalkyl sulfonic acids (PFSAs)			
Perfluorobutanesulfonic acid (PFBS) ^{NI1}	5	ug/kg	< 5
Perfluorononanesulfonic acid (PFNS) ^{NI8}	5	ug/kg	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{NI5}	5	ug/kg	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{NI8}	5	ug/kg	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{NI1}	5	ug/kg	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{NI8}	5	ug/kg	< 5

Client Sample ID			0874_QC210_2 31012
Sample Matrix			Soil
Eurofins Sample No.			B23- Oc0039745
Date Sampled			Oct 12, 2023
Test/Reference	LOR	Unit	
Perfluoroalkyl sulfonic acids (PFASs)			
Perfluorooctanesulfonic acid (PFOS) ⁽¹⁾	5	ug/kg	< 5
Perfluorodecanesulfonic acid (PFDS) ⁽¹⁾	5	ug/kg	< 5
13C3-PFBS (surr.)	1	%	75
18O2-PFHxS (surr.)	1	%	78
13C8-PFOS (surr.)	1	%	83
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)			
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ⁽¹⁾	5	ug/kg	< 5
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ⁽¹⁾	10	ug/kg	< 10
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ⁽¹⁾	5	ug/kg	< 5
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ⁽¹⁾	5	ug/kg	< 5
13C2-4:2 FTSA (surr.)	1	%	65
13C2-6:2 FTSA (surr.)	1	%	48
13C2-8:2 FTSA (surr.)	1	%	72
13C2-10:2 FTSA (surr.)	1	%	90
PFASs Summations			
Sum (PFHxS + PFOS)*	5	ug/kg	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
% Moisture - Method: LTM-GEN-7080 Moisture	Brisbane	Oct 18, 2023	14 Days
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 20, 2023	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 20, 2023	28 Days
Perfluoroalkyl sulfonic acids (PFSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 20, 2023	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 20, 2023	28 Days

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rorke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gale Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
---	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	0874_QC200_231006	Oct 06, 2023		Water	B23-Oc0039735			X
2	0874_QC201_231006	Oct 06, 2023		Soil	B23-Oc0039736		X	X
3	0874_QC202_231009	Oct 09, 2023		Soil	B23-Oc0039737		X	X
4	0874_QC203_231009	Oct 09, 2023		Water	B23-Oc0039738			X
5	0874_QC204_231009	Oct 09, 2023		Soil	B23-Oc0039739		X	X
6	0874_QC205_231010	Oct 10, 2023		Water	B23-Oc0039740			X
7	0874_QC206_231010	Oct 10, 2023		Water	B23-Oc0039741			X
8	0874_QC207_231011	Oct 11, 2023		Soil	B23-Oc0039742		X	X

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rorke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gale Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
---	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	0874_QC208_2310T1	Oct 11, 2023		Water	B23-Oc0039743			X
10	0874_QC209_2310T2	Oct 12, 2023		Water	B23-Oc0039744			X
11	0874_QC210_2310T2	Oct 12, 2023		Soil	B23-Oc0039745		X	X
12	0874_QC211_2310T2	Oct 12, 2023		Water	B23-Oc0039746			X
13	0874_QC250_2310O9	Oct 09, 2023		Water	B23-Oc0039747			X
14	0874_QC251_2310T0	Oct 10, 2023		Water	B23-Oc0039748			X
15	0874_QC252_2310T0	Oct 10, 2023		Water	B23-Oc0039749			X
16	0874_QC253_2310T1	Oct 11, 2023		Water	B23-Oc0039750			X
17	0874_QC254_2310T1	Oct 11, 2023		Water	B23-Oc0039751			X
18	0874_QC255_2310T2	Oct 12, 2023		Water	B23-Oc0039752			X

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Wetlaupool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Auckland 35 O'Rourke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Oct 17, 2023 8:30 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1035859	Due:	Oct 24, 2023
Project Name:	QLD_0874_PFSUMP_23	Phone:	0428 644 967	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
				Eurofins Analytical Services Manager: [REDACTED]	

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
19	0874_QC256_2310T2	Oct 12, 2023		Water	B23-Oc0039753			X
20	0874_QC212_2310T3	Oct 13, 2023		Water	B23-Oc0039754	X		
21	TRIP BLANK	Oct 06, 2023		Water	B23-Oc0039779	X		
Test Counts						2	5	19

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

µg/L: micrograms per litre

ppm: parts per million

ppb: parts per billion

%: Percentage

org/100 mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100 mL: Most Probable Number of organisms per 100 millilitres

CFU: Colony forming unit

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPa, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30%; however the following acceptance guidelines are equally

applicable: Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported, have been reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)	ug/kg	< 5	5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5	5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5	5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5	5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5	5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5	5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5	5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5	5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5	5	Pass	
Perfluorotridecanoic acid (PFTriDA)	ug/kg	< 5	5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5	5	Pass	
Method Blank					
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5	5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5	5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5	5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5	5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5	5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10	10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10	10	Pass	
Method Blank					
Perfluoroalkyl sulfonic acids (PFSAs)					
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5	5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5	5	Pass	
Perfluoropropenesulfonic acid (PFPrS)	ug/kg	< 5	5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5	5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5	5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5	5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5	5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5	5	Pass	
Method Blank					
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5	5	Pass	
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10	10	Pass	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5	5	Pass	
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5	5	Pass	
LCS - % Recovery					
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)	%	94	50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	85	50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	96	50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	99	50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	94	50-150	Pass	
Perfluorononanoic acid (PFNA)	%	105	50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	99	50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	107	50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	105	50-150	Pass	
Perfluorotridecanoic acid (PFTriDA)	%	97	50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	103	50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	128			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	103			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	112			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	71			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	89			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	82			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	104			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	89			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	101			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	91			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	100			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	104			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	111			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	94			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	81			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	88			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	90			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	97			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	94			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
Perfluorobutanoic acid (PFBA)	B23-Oc0048759	NCP	%	99		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Oc0048759	NCP	%	97		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Oc0048759	NCP	%	107		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Oc0048759	NCP	%	62		50-150	Pass	
Perfluorooctanoic acid (PFOA)	B23-Oc0048759	NCP	%	61		50-150	Pass	
Perfluorononanoic acid (PFNA)	B23-Oc0048759	NCP	%	81		50-150	Pass	
Perfluorodecanoic acid (PFDA)	B23-Oc0048759	NCP	%	78		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Oc0048759	NCP	%	72		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Oc0048759	NCP	%	107		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	B23-Oc0048759	NCP	%	74		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Oc0048759	NCP	%	58		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	B23-Oc0048759	NCP	%	74		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Oc0048759	NCP	%	116		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Oc0048759	NCP	%	126		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Oc0048759	NCP	%	114		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Oc0048759	NCP	%	78		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Oc0048759	NCP	%	99			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Oc0048759	NCP	%	75			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	B23-Oc0048759	NCP	%	99			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	B23-Oc0048759	NCP	%	108			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B23-Oc0048759	NCP	%	127			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B23-Oc0048759	NCP	%	89			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B23-Oc0048759	NCP	%	61			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B23-Oc0048759	NCP	%	131			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B23-Oc0048759	NCP	%	102			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	B23-Oc0048759	NCP	%	130			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Oc0048759	NCP	%	77			50-150	Pass	
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Oc0048759	NCP	%	87			50-150	Pass	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Oc0048759	NCP	%	51			50-150	Pass	
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Oc0048759	NCP	%	130			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B23-Oc0041436	NCP	%	2.0	1.8	8.0	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA's)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Oc0039742	CP	ug/kg	29	27	6.0	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	B23-Oc0039742	CP	ug/kg	12	13	7.4	30%	Pass	
Perfluorononanoic acid (PFNA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Oc0039742	CP	ug/kg	< 10	< 10	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Oc0039742	CP	ug/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Oc0039742	CP	ug/kg	6.5	7.0	7.8	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Oc0039742	CP	ug/kg	8.8	9.3	5.0	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Oc0039742	CP	ug/kg	7.8	8.2	5.9	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Oc0039742	CP	ug/kg	340	330	2.4	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Oc0039742	CP	ug/kg	48	47	1.8	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Oc0039742	CP	ug/kg	1200	1200	3.6	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Oc0039742	CP	ug/kg	< 10	< 10	<1	30%	Pass
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Oc0039742	CP	ug/kg	< 5	< 5	<1	30%	Pass

Comments

This report has been revised (V2) to amend project name.

Sample integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:


 Analytical Services Manager
 Senior Analyst-PFAS
 Senior Analyst-Sample Properties


 Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4800 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rourke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gale Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	0874_QC200_231006	Oct 06, 2023		Water	B23-Oc0039735			X
2	0874_QC201_231006	Oct 06, 2023		Soil	B23-Oc0039736		X	X
3	0874_QC202_231009	Oct 09, 2023		Soil	B23-Oc0039737		X	X
4	0874_QC203_231009	Oct 09, 2023		Water	B23-Oc0039738			X
5	0874_QC204_231009	Oct 09, 2023		Soil	B23-Oc0039739		X	X
6	0874_QC205_231010	Oct 10, 2023		Water	B23-Oc0039740			X
7	0874_QC206_231010	Oct 10, 2023		Water	B23-Oc0039741			X
8	0874_QC207_231011	Oct 11, 2023		Soil	B23-Oc0039742		X	X

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rourke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gale Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	0874_QC208_2310T1	Oct 11, 2023		Water	B23-Oc0039743			X
10	0874_QC209_2310T2	Oct 12, 2023		Water	B23-Oc0039744			X
11	0874_QC210_2310T2	Oct 12, 2023		Soil	B23-Oc0039745		X	X
12	0874_QC211_2310T2	Oct 12, 2023		Water	B23-Oc0039746			X
13	0874_QC250_2310O9	Oct 09, 2023		Water	B23-Oc0039747			X
14	0874_QC251_2310T0	Oct 10, 2023		Water	B23-Oc0039748			X
15	0874_QC252_2310T0	Oct 10, 2023		Water	B23-Oc0039749			X
16	0874_QC253_2310T1	Oct 11, 2023		Water	B23-Oc0039750			X
17	0874_QC254_2310T1	Oct 11, 2023		Water	B23-Oc0039751			X
18	0874_QC255_2310T2	Oct 12, 2023		Water	B23-Oc0039752			X

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370
--

Auckland 35 O'Rourke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810
Project Name: QLD_0874_PFSUMP_23

Order No.: 60612487_2.1
Report #: 1035859
Phone: 0428 644 967
Fax:

Received: Oct 17, 2023 8:30 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluorinated Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
19	0874_QC256_2310T2	Oct 12, 2023		Water	B23-Oc0039753			X
20	0874_QC212_2310T3	Oct 13, 2023		Water	B23-Oc0039754	X		
21	TRIP BLANK	Oct 06, 2023		Water	B23-Oc0039779	X		
Test Counts						2	5	19

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 085 085 521

Melbourne 8 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site 1254	Geelong 18/8 Lewatan Street Grovedale VIC 3218 Tel: +61 3 8564 5000 NATA# 1261 Site 25403	Sydney 179 Magawar Road Girraween NSW 2145 Tel: +61 2 8900 8400 NATA# 1261 Site 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 9091 NATA# 1261 Site 25495	Brisbane 1/21 Smallwood Place Muramba QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site 25079 & 25288
---	--	--	--	--	---

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth 45-48 Bankalea Road Wishpool WA 8108 Tel: +61 8 8253 4444 NATA# 2377 Site 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9423040024954

Auckland 35 O'Rourke Road Panmure Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Debut Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Sample Receipt Advice

Company name: AECOM Aust Pty Ltd TSV
Contact name: [REDACTED]
Project name: QLD_0874_PFASUMP_23
Project ID: Not provided
Turnaround time: 5 Day
Date/Time received: Oct 17, 2023 8:30 AM
Eurofins reference: 1035859

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- N/A Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

ATTN: Lab received additional trip blank sample, this has been logged on hold.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]@eurofins.com

Results will be delivered electronically via email to [REDACTED] - [REDACTED]@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd TSV email address.

AECOM Aust Pty Ltd TSV
 Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810



NATA Accredited
 Accreditation Number 1261
 Site Number 20734

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the IAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: XXXXXXXXXX

Report **1039604-W**
 Project name **QLD_0874_PFASOMP_23**
 Received Date **Oct 30, 2023**

Client Sample ID	LOR	Unit	0874_QC502_2 31013
Sample Matrix			Water
Eurofins Sample No.			B23- Oc0072432
Date Sampled			Oct 06, 2023
Test/Reference	LOR	Unit	
Perfluoroalkyl carboxylic acids (PFCA)			
Perfluorobutanoic acid (PFBA) ¹¹¹	0.05	ug/L	< 0.05
Perfluoropentanoic acid (PFPeA) ¹¹¹	0.01	ug/L	< 0.01
Perfluorohexanoic acid (PFHxA) ¹¹¹	0.01	ug/L	< 0.01
Perfluoroheptanoic acid (PFHpA) ¹¹¹	0.01	ug/L	< 0.01
Perfluorooctanoic acid (PFOA) ¹¹¹	0.01	ug/L	< 0.01
Perfluorononanoic acid (PFNA) ¹¹¹	0.01	ug/L	< 0.01
Perfluorodecanoic acid (PFDA) ¹¹¹	0.01	ug/L	< 0.01
Perfluoroundecanoic acid (PFUnDA) ¹¹¹	0.01	ug/L	< 0.01
Perfluorododecanoic acid (PFDoDA) ¹¹¹	0.01	ug/L	< 0.01
Perfluorotridecanoic acid (PFTrDA) ¹¹²	0.01	ug/L	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ¹¹¹	0.01	ug/L	< 0.01
13C4-PFBA (surr.)	1	%	85
13C5-PFPeA (surr.)	1	%	96
13C5-PFHxA (surr.)	1	%	89
13C4-PFHpA (surr.)	1	%	88
13C8-PFOA (surr.)	1	%	81
13C5-PFNA (surr.)	1	%	70
13C8-PFDA (surr.)	1	%	65
13C2-PFUnDA (surr.)	1	%	66
13C2-PFDoDA (surr.)	1	%	66
13C2-PFTeDA (surr.)	1	%	65
Perfluoroalkyl sulfonamido substances			
Perfluorooctane sulfonamide (FOSA) ¹¹¹	0.05	ug/L	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ¹¹¹	0.05	ug/L	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ¹¹¹	0.05	ug/L	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ¹¹¹	0.05	ug/L	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ¹¹¹	0.05	ug/L	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ¹¹¹	0.05	ug/L	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ¹¹¹	0.05	ug/L	< 0.05
13C8-FOSA (surr.)	1	%	63
D3-N-MeFOSA (surr.)	1	%	118
D5-N-EtFOSA (surr.)	1	%	118

Client Sample ID			0874_QC502_2 31013
Sample Matrix			Water
Eurofins Sample No.			B23- Oc0072432
Date Sampled			Oct 06, 2023
Test/Reference	LOR	Unit	
Perfluoroalkyl sulfonamido substances			
D7-N-MeFOSE (surr.)	1	%	113
D9-N-EiFOSE (surr.)	1	%	94
D5-N-EiFOSAA (surr.)	1	%	68
D3-N-MeFOSAA (surr.)	1	%	65
Perfluoroalkyl sulfonic acids (PFSA)			
Perfluorobutanesulfonic acid (PFBS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluorononanesulfonic acid (PFNS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluoroheptanesulfonic acid (PFHpS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluorooctanesulfonic acid (PFOS) ⁽¹⁾	0.01	ug/L	< 0.01
Perfluorodecanesulfonic acid (PFDS) ⁽¹⁾	0.01	ug/L	< 0.01
13C3-PFBS (surr.)	1	%	99
18O2-PFHxS (surr.)	1	%	87
13C8-PFOS (surr.)	1	%	83
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)			
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ⁽¹⁾	0.01	ug/L	< 0.01
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA) ⁽¹⁾	0.05	ug/L	< 0.05
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ⁽¹⁾	0.01	ug/L	< 0.01
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ⁽¹⁾	0.01	ug/L	< 0.01
13C2-4:2 FTSA (surr.)	1	%	64
13C2-6:2 FTSA (surr.)	1	%	70
13C2-8:2 FTSA (surr.)	1	%	57
13C2-10:2 FTSA (surr.)	1	%	39
PFASs Summations			
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 31, 2023	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 31, 2023	28 Days
Perfluoroalkyl sulfonic acids (PFASs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 31, 2023	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Oct 31, 2023	28 Days

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 6091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Wishpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Auckland 35 O'Rorke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
---	--	---

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Oct 30, 2023 8:50 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1039604	Due:	Nov 6, 2023
Project Name:	QLD_0874_PFASOMP_23	Phone:	0428 644 967	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
				Eurofins Analytical Services Manager : [REDACTED]	

Sample Detail						Per- and Polyfluorinated Substances (PFASs)	
Brisbane Laboratory - NATA # 1261 Site # 20794							X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC502_2310T3	Oct 06, 2023		Water	B23-Oc0072432	X	
Test Counts						1	

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

µg/L: micrograms per litre

ppm: parts per million

ppb: parts per billion

%: Percentage

org/100 mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100 mL: Most Probable Number of organisms per 100 millilitres

CFU: Colony forming unit

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPa, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30%; however the following acceptance guidelines are equally

applicable: Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported, have been reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05	0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01	0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01	0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01	0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01	0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01	0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01	0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01	0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01	0.01	Pass	
Perfluorotridecanoic acid (PFTriDA)	ug/L	< 0.01	0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01	0.01	Pass	
Method Blank					
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05	0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05	0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05	0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05	0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05	0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05	0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05	0.05	Pass	
Method Blank					
Perfluoroalkyl sulfonic acids (PFSAs)					
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01	0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01	0.01	Pass	
Perfluoropropenesulfonic acid (PFPrS)	ug/L	< 0.01	0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01	0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01	0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01	0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01	0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01	0.01	Pass	
Method Blank					
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01	0.01	Pass	
1H,1H,2H,2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05	0.05	Pass	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01	0.01	Pass	
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01	0.01	Pass	
LCS - % Recovery					
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)	%	85	50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	82	50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	94	50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	84	50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	79	50-150	Pass	
Perfluorononanoic acid (PFNA)	%	87	50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	87	50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	70	50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	70	50-150	Pass	
Perfluorotridecanoic acid (PFTriDA)	%	63	50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	89	50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	88			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	80			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	78			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	68			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	80			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	66			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	71			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	91			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	73			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	87			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	97			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	94			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	90			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	80			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	65			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	88			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	90			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	69			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	61			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)								
				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanoic acid (PFNA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotridecanoic acid (PFTTrDA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonamido substances								
				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1	Result 2	RPD		
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA)	B23-Oc0072432	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Oc0072432	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Comments
Sample integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:




Managing Director

Analytical Services Manager
 Senior Analyst-PFAS

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 198 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25486	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4988 8448 NATA# 1261 Site# 25079 & 25289
--	--	---	---	---	--

Perth 46-48 Banksia Road Wishpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Auckland 35 O'Rorke Road Penrose Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
---	--	---

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV	Order No.: 60612487_2.1	Received: Oct 30, 2023 8:50 AM
Address: Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #: 1039604	Due: Nov 6, 2023
Project Name: QLD_0874_PFASOMP_23	Phone: 0428 644 967	Priority: 5 Day
	Fax:	Contact Name: [REDACTED]
		Eurofins Analytical Services Manager: [REDACTED]

Sample Detail	Per- and Polyfluorinated Substances (PFASs)
---------------	---

Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	0874_QC502_2310T3	Oct 06, 2023		Water	B23-Oc0072432	X
Test Counts						1

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 085 085 521

Melbourne 8 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site 1254	Geelong 18/8 Lewalan Street Grovedale VIC 3218 Tel: +61 3 8564 5000 NATA# 1261 Site 25403	Sydney 179 Magawar Road Girraween NSW 2145 Tel: +61 2 8900 8400 NATA# 1261 Site 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 9091 NATA# 1261 Site 25496	Brisbane 121 Smallwood Place Muramba QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site 25079 & 26288
---	--	--	--	---	---

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth 45-48 Bankalea Road Wishpool WA 8108 Tel: +61 8 8253 4444 NATA# 2377 Site 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9423040024954

Auckland 35 O'Rourke Road Panmure Auckland 1061 Tel: +64 9 526 4501 IANZ# 1327	Christchurch 43 Debut Drive Rolleston Christchurch 7675 Tel: +64 3 343 8201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 Tel: +64 9 525 0568 IANZ# 1402
--	--	---

Sample Receipt Advice

Company name: AECOM Aust Pty Ltd TSV
Contact name: [REDACTED]
Project name: QLD_0874_PFSASOMP_23
Project ID: Not provided
Turnaround time: 5 Day
Date/Time received: Oct 30, 2023 8:50 AM
Eurofins reference: 1039604

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- N/A Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- N/A Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]@eurofins.com

Results will be delivered electronically via email to [REDACTED] - [REDACTED]@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd TSV email address.

Appendix F

Calibration Certificates



Calibration Certificate

AirMet Scientific P/L
 135 Sydney Street
 Mackay
 QLD 4740, Australia
 Tel: 07 4951 7500
 Fax: 07 4951 7575

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 6-Jul-2023 Call ID / Order No: 262375
 Calibration Date: 04-Jul-2023 Job No / Pack No: S2623750001
 Next Calibration Due: 4-Jul-2024

Customer: AECOM Australia Pty Ltd-ID 407250 **Serial No:** 18K102334
Description: Xylem ProDSS Handheld, No GPS

Calibration Summary

Frequency: 366 Days **Temp:** 22°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2623750001

Desc	As Found		As Left (Cal Status)	
	Actual	Result	Actual	Result
PH4	4.2	Pass	4.0	Pass
PH7	7.2	Pass	7.01	Pass
Specific Conductivity	2018.0	Fail	1414.0	Pass
DO	-0.6	Pass	0.0	Pass
Turbidity	48.3	Pass	49.5	Pass
Barometer	101.56	Pass	101.55	Pass
ORP	231.6	Pass	235.6	Pass
Temp 22.2C	22.2	Pass	22.2	Pass

Equip ID	Standard Used Description	Valid Until	Cert
S4220604	Vaisala PTU Transmitter	20/10/2023	

pH4 s/n399527, pH7 s/n399304, Cond1413uS/cm s/n398532, ORP zorbei A s/n393734 zorbei B s/n400204, DO Na2SO3 s/n12111, Turbidity 50NTU s/n401616

Completed By: _____

Signed: _____

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 23E102252



airmet
Air-Met Scientific Pty Ltd

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad Display	Operation	✓	
	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	NIST	399304	pH 7.02
2. pH 4.00		pH 4.00	NIST	399527	pH 4.00
3. mV		232.3mV	NIST	406331/402268	232.3mV
4. EC		1413uS	NIST	398532	1413uS
6. D.O		0 ppm	NIST	12111	0 ppm
7. Temp		23.5C	NIST	Testo Mini901	23.5C

Calibrated by: 

Calibration date: 11/09/2023

Next calibration due: 13/03/2024

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487.2.1
Project Location:	Towansville Blvd	Client:	Dept. of 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:	AECOM
Make and Model:	451 Pro DSS
Serial Number:	18K102334

CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	3/10/23 1350				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
	pH	pH		µS/cm	ORP / ppm
Calibration Standard Concentration:	4.00	7.00	276.0	231.3	100
Calibration Reading:	3.94	6.93	319.6	230.0	101.2
Calibration Temperature:	25.0	24.8	24.5	24.8	25.9

ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
	pH	pH		µS/cm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					

Approval and Distribution	
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.	
_____ Fieldwork Staff Signature	_____ Date
Distribution: Project Central File	

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	RAAF Townsville	Client:	Dept of 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:	AirMet
Make and Model:	YSI Quatro Pro Plus
Serial Number:	23E102252

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	6/10/23 6:55				
Parameter	Acidity		Conductivity	CLP / Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	mg/L	%
Calibration Standard Concentration:	4.00	7.02	2760	236.5	99.9
Calibration Reading:	4.05	7.01	2758	233.8	100.4
Calibration Temperature:	20.5	20.6	20.5	20.7	20.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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.

_____ 6/10/23 _____
 Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612437.2.1		
Project Location:	RAAF Townsville	Client:	Dept. of 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:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	9/10/23 0750				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	4.00	7.00	2707	232.1	100
Calibration Reading:	4.00	7.00	2703	232.0	98
Calibration Temperature:	23.9	24.2	24.1	24.2	22.8
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			9/10/23		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	60612487	
Project Location:	DAAP TSV		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:	Airmet				
Make and Model:	YSI Quatro Pro Plus				
Serial Number:	23E102252				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	9/10/23		945		
Parameter	Acidity		Conductivity	mg/L	Dissolved Oxygen
Units	4.00H	7.00H	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.00	7.00	2760	11.31	
Calibration Reading:	4.04	6.99	2771	11.31	
Calibration Temperature:	26.8	26.8	25.4	24.4	
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual [REDACTED] inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED] Signature			9.10.23 Date		
Distribution: Project Central File					

ORP
mV
221.7
221.7
25.7

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487-2.1
Project Location:	ROOF Townsville	Client:	Dept of 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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	ISK102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	10/10/23				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH 4.0	7.0 pH	µS/cm	mg/L ppm	%
Calibration Standard Concentration:	4.00	7.00	2760	-	100.6
Calibration Reading:	4.23	7.23	3301	-	104.0
Calibration Temperature:	24.2	24.4	24.0	24.6	24.6

ORA
TW
232.8
220.4
23.6

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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.

Fieldwork Staff Signature

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEA OMP	Project Number:	60614287
Project Location:	RAAF TSV	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:	M89 Airmet
Make and Model:	YSI Ovation Pro Plus
Serial Number:	23E102252

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	10/10/23 7:45				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen %
Units	4 pH	7 pH	µS/cm	mV	ppm
Calibration Standard Concentration:	4.00	7.00	2760	222.5	100
Calibration Reading:	4.07	6.99	2510	223.8	101.6
Calibration Temperature:	23.4	23.1	23.4	23.3	25.6

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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, and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487-2.1
Project Location:	RAAF Townsville	Client:	Dept of 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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11/10/23 08:30				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	4.00	7.00	2760	231.1	100
Calibration Reading:	3.99	6.97	2550	239.0	98.5
Calibration Temperature:	23.9	24.8	24.9	24.9	33.6

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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.

Fieldwork Staff Signature

11/10/23

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	TOWNSVILLE RAAF	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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AIRMET
Make and Model:	YSI PRO QUATRO
Serial Number:	23E102252

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11-10-23 0830				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	4.00 pH	7.00 pH	µS/cm	% ppm	ORP mV ppm
Calibration Standard Concentration:	4.00	7.00	2760	100.6	224.9
Calibration Reading:	4.01	7.04	2750	106.8	224.9
Calibration Temperature:	24.2	24.1	23.6	27.0	23.7

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

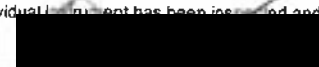
COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.


11-10-23

Fieldwork Staff Signature
Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487-2.1
Project Location:	RADF Terminal	Client:	Dept. of 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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	12/10/23 0840				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH	pH	µS/cm	mV / ppm	ppm %
Calibration Standard Concentration:	4.00	7.00	2707	230.8	100
Calibration Reading:	4.23	7.33	2792	219.4	100.3
Calibration Temperature:	23.8	24.2	24.3	25.1	24.3

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

 Fieldwork Staff Signature

 12/10/23
 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487		
Project Location:	RAAF TOWNVILLE	Client:	DEPT. OF 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 fieldwork.					
INSTRUMENT DETAILS					
Supplier:	AIRMET				
Make and Model:	YSI PRO QUATRO				
Serial Number:	23E102252				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	12-10-23 0830				
Parameter	Acidity		Conductivity	Dissolved Oxygen / ORP	
Units	4.00 pH	7.00 pH	µS/cm	% ppm	mV ppm
Calibration Standard Concentration:	4.00	7.00	2760	100.8	224.4
Calibration Reading:	3.98	7.01	3016	106.4	224.0
Calibration Temperature:	24.6	24.8	24.2	23.7	24.3
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution:					
Each individual [REDACTED] calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED] Fieldwork Staff Signature			12-10-23		
			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487		
Project Location:	RAAF Townsville	Client:	DEPT OF 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 fieldwork.					
INSTRUMENT DETAILS					
Supplier:	AIRMET				
Make and Model:	YSI QUATRO PRO				
Serial Number:	23E102252				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	13-10-23 0830				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	4.00 pH	7.00 pH	µS/cm	% ppm	mV ORP
Calibration Standard Concentration:	4.00	7.00	2760	100.6	224.6
Calibration Reading:	4.02	7.04	2590	89.3	223.1
Calibration Temperature:	24.3	24.1	23.7	24.3	23.9
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input type="checkbox"/> Each individual meter tested and calibrated daily and bump tested as required by fieldwork staff.					
Fieldwork Staff Signature			Date		
[REDACTED]			13-10-23		
Distribution: Project File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	XAS OMP-RAAF TSV	Project Number:	10612417
Project Location:	RAAF TSV	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:	AECOM
Make and Model:	YSI ProDSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	17/11/23 0745				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	4.00	7.01	2658	232.1	100
Calibration Reading:	3.93	6.83	2659	235.7	101.7
Calibration Temperature:	23.6	23.7	23.9	24.2	30.9

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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.

	17/11/23
[REDACTED]	Date

Distribution: Project Central File

Rainfall Event Sampling Factual Report, January 2024

PFAS OMP - RAAF Base Townsville

20-Mar-2024
PFAS Ongoing Monitoring Plan - RAAF Base Townsville
Doc No. 60612487_RP113_20240320_0

Rainfall Event Sampling Factual Report, January 2024

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

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

T +61 7 4729 5500 www.aecom.com


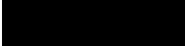
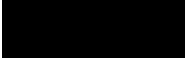
ABN 20 093 846 925

20-Mar-2024

Job No.: 60612487

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

Quality Information

Document Rainfall Event Sampling Factual Report, January 2024
 Ref 60612487_RP113_20240320_0
 Date 20-Mar-2024
 Originator 
 Checker/s 
 Verifier/s 

Revision History

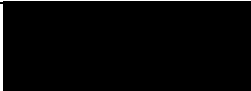
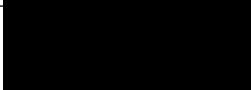
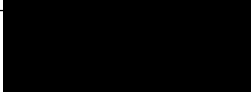
Rev	Revision Date	Details	Approved	
			Name/Position	Signature
A	02-Feb-2024	Draft for Client Review		
B	19-Mar-2024	Draft for Client Review		
0	20-Mar-2024	Revised Draft for Client Review		

Table of Contents

1.0	Introduction	1
	1.1 General	1
	1.2 Objectives	1
2.0	Scope of Work	2
3.0	Methodology	3
	3.1 Surface Water Sampling Methodology	3
	3.2 Quality Assurance / Quality Control and Analysis	3
	3.3 Adopted Screening Criteria	3
	3.4 Data Quality Objectives and Data Validation	4
4.0	Field Observations and Results	5
	4.1 Surface Water Observations and Field Measurements	5
	4.2 PFAS Surface Water Analytical Results	7
5.0	Summary and Next Sampling Event	8
	5.1 Summary of Sampling Event	8
	5.2 Upcoming Sampling Events	8
	5.3 Upcoming Ongoing Monitoring Report	8
6.0	References	9
Appendix A	Figures	A
Appendix B	Analytical Tables	B
Appendix C	Data Validation	C
Appendix D	Chain of Custody Records	D
Appendix E	Laboratory Analytical Reports	E
Appendix F	Calibration Certificates	F

List of Tables (in Text)

Table 1	Surface Water Catchments and Sampling Locations	2
Table 2	Surface Water Sampling Methodology	3
Table 3	QA/QC and Analysis for OMP	3
Table 4	Summary of Adopted Screening Criteria	4
Table 5	Surface Water Observations and Field Measurements	5
Table 6	Locations of New Historical Maximum Concentrations for Surface Water	7
Table 7	Summary of Sampling Event	8

List of Figures (Appendix A)

Figure 1	RAAF Base Townsville Location Plan
Figure 2	Rainfall event-based surface water sampling locations

List of Tables (Appendix B)

Table T1	Field Parameter Results and Observations
Table T2	PFAS Analytical Results

Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)
BoM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies=
LOR	Limit of reporting
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPM	National Environmental Protection Measure
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling and Analysis Quality Plan
SMA	Sub-Management Area
SW	Surface Water
WQM	Water Quality Meter

Units of measurement

Unit	Definition	Unit	Definition
AHD	Above height datum	mAHD	metres Australian Height Datum
°C	Degrees Celsius	mg	Milligrams
L	Litre	mm	Millimetre
µS	Microsiemens	cm	Centimetre
kg	Kilogram	mV	Millivolts
m	Metre	µg	Micrograms
mBTOC	metres below top of casing		

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Department of Defence, 2020) at RAAF Base Townsville (the 'Base') located in the North Queensland Region. The Monitoring Area (which includes areas on-Base and off-Base) and Sub-Management Areas¹ are shown in **Figure 1, Appendix A**.

The OMP for Townsville (Department of Defence, 2020) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, April and October 2021, April and October 2022, April and October 2023 and April 2024; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of five consecutive days, limited to one event per calendar year.

A sampling and analysis quality plan (SAQP) (AECOM, 2023) provides details of the sampling events.

A rainfall sampling event was triggered following 64.4 mm rainfall recorded at Townsville Aero (station 032040) (Bureau of Meteorology, 2024) on 11 January 2024. This sampling event factual report has been prepared to report the results of the January 2024 rainfall sampling event, specifically highlighting first-time detections and/or new exceedances of human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonate (PFHxS) and/or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Department of Defence, 2021).

1.2 Objectives

The objectives of the ongoing monitoring program are to:

- Implement the OMP prepared as part of the PMAP (Department of Defence, 2020); 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 to protect human health and the environment, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the 2024 Rainfall Event Sampling scope of work in general accordance with the latest version of the SAQP (AECOM, 2023).

¹ Sub-Management Area 1 - Southeast corner of Base north of No. 27 Squadron (27SQN) headquarters, Sub-Management Area, 2 – Centre of Base including the Fire station and Fuel installation, Sub-Management Area 3 – 5th Aviation Regiment (5AVN) compound.

2.0 Scope of Work

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

- Review of the SAQP (AECOM, 2023) prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP), version 2.0 (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 (Defence, 2019b)
 - AS/NZ 5667:1998 Water quality – Sampling
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
 - Relevant State regulatory guidelines.
- Collection of surface water samples at 19 locations including ten on-Base and nine off-Base locations, daily for five consecutive days (refer to **Figure 2**, **Appendix A** and **Table 1** below).
- Analysis of all samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR) and collection of field geochemistry parameters for all samples.
- Preparation of this Rainfall Event Sampling Factual Report.

Table 1 Surface Water Catchments and Sampling Locations

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

There were no deviations from the proposed sampling scope.

3.0 Methodology

3.1 Surface Water Sampling Methodology

The methodology used for the January 2024 rainfall event sampling was in accordance with the SAQP (AECOM, 2023) and is summarised in **Table 2** below.

Table 2 Surface Water Sampling Methodology

Item	Details
Water Quality Parameters	Field parameters were collected ex situ post-sampling using water from the stainless-steel scoop. Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded using a calibrated WQM (results detailed in Table T1, Appendix B).
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 decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into laboratory supplied containers with the cap immediately applied once the container was full.

3.2 Quality Assurance / Quality Control and Analysis

The quality assurance/quality control (QA/QC) requirements and analysis completed for the OMP sampling event are summarised in **Table 3**, below.

Table 3 QA/QC and Analysis for OMP

Item	Details
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples, trip blank samples and rinsate samples. Intra- and inter-laboratory samples were collected at a rate of one per ten primary samples. Trip blanks were prepared in the laboratory by filling sampling containers with laboratory supplied PFAS-free deionised water. Trip blanks accompanied the samples during the sampling program and in transit to the laboratory. Rinsate samples were collected at a rate of one per day of sampling when non-dedicated equipment was used by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite analysis (28 analytes) using the standard levels of detection. Australian Laboratory Services (ALS) Environmental Pty Ltd Brisbane, Queensland was used as the primary laboratory. Eurofins of Brisbane, QLD was used as the secondary laboratory. ALS and Eurofins methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.3 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 include the following:

- PFAS NEMP, version 2.0 (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. October 2017 [updated September 2019].
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM, 2013).

In accordance with the OMP (Department of Defence, 2020) and SAQP (AECOM, 2023), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 4** below.

Table 4 Summary of Adopted Screening Criteria

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

3.4 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**. Data validation procedures 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 the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

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

4.0 Field Observations and Results

The 2024 Rainfall Event Sampling was completed between 11 and 15 January 2024. This sampling event was triggered by the report of 64.4 mm of rainfall at Townsville Aero (station 032040) on 11 January 2024. **Plate 1** below shows the daily rainfall received at Townsville Aero the week preceding the sampling event and for the duration of the sampling. The daily rainfall totals presented in **Plate 1** represent the rainfall received in the preceding 24 hrs to 9 am on the date shown (BOM, 2024).

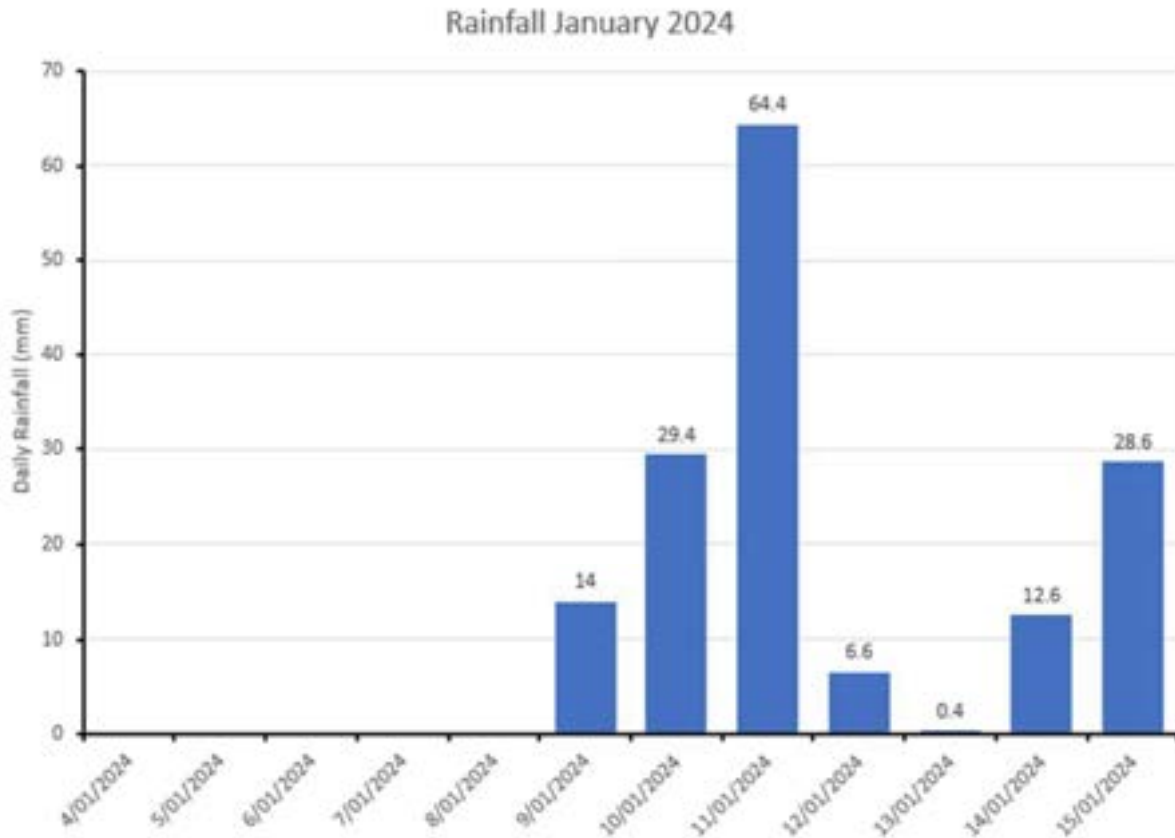


Plate 1 Daily recorded rainfall at Townsville Aero (station 032040) between 11 and 15 January 2024

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

4.1 Surface Water Observations and Field Measurements

Table 5 Surface Water Observations and Field Measurements

Item	Observations								
Access	All surface water locations were accessible during the sampling event and sampled for five days consecutively.								
Field Observations	<p>Sampled surface water locations were generally found to be odour and sheen free, with the exception of the following samples:</p> <table border="1"> <thead> <tr> <th>Observation</th> <th>Affected locations</th> </tr> </thead> <tbody> <tr> <td>Sulfurous odour</td> <td>SW014 (14/1/24) SW125 (13/1/24) SW129 (15/1/24) SW131 (11/1/24 – 15/1/24))</td> </tr> <tr> <td>Biosheen</td> <td>SW121 (12/1/24)</td> </tr> <tr> <td>Slight sheen</td> <td>SW017 (11/1/24)</td> </tr> </tbody> </table>	Observation	Affected locations	Sulfurous odour	SW014 (14/1/24) SW125 (13/1/24) SW129 (15/1/24) SW131 (11/1/24 – 15/1/24))	Biosheen	SW121 (12/1/24)	Slight sheen	SW017 (11/1/24)
Observation	Affected locations								
Sulfurous odour	SW014 (14/1/24) SW125 (13/1/24) SW129 (15/1/24) SW131 (11/1/24 – 15/1/24))								
Biosheen	SW121 (12/1/24)								
Slight sheen	SW017 (11/1/24)								

Item	Observations
	<p>Surface water colour varied from clear to various shades of brown to reddish yellow, olive yellow, pale yellow, and yellow.</p> <p>Turbidity ranged from clear to turbid.</p> <p>No other visible or olfactory indications of note were observed during the sampling of the surface water locations.</p> <p>Field observations are presented Table T1, Appendix B.</p>
Water Quality Parameters	<p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T1, Appendix B and are summarised below.</p> <ul style="list-style-type: none"> • DO results ranged between 1.88 mg/L (SW016 13/1/24) and 14.8 mg/L (SW132 13/1/24), indicating low to well oxygenated conditions. Location SW132 recorded consistently high DO over the five consecutive days of sampling. • EC ranged from 77.9 µS/cm (SW127 14/1/24) to 44,766 µS/cm (SW109 14/1/24), indicating fresh to saline conditions. • pH ranged from 5.18 (SW121 13/1/24) to 9.2 (SW125 12/1/24), indicating slightly acidic to alkaline conditions. • Corrected ORP ranged from 75.5 mV (SW131 15/1/24) to 574.6 mV (SW121 13/1/24), indicating oxidising to moderately reducing conditions. • Temperature ranged from 26.8°C (SW102 11/1/24 and SW129 14/1/24) to 36.7°C (SW132 13/1/24).
Weather Conditions	<p>Overcast conditions and rain were experienced during the sampling program and a summary of weather conditions and locations affected is provided below.</p> <p>11 January 2024 Light rain during the sampling of SW010, SW014, SW016, SW017, SW102, SW108, SW112, SW117, SW118, SW121, SW123, SW125, SW127, SW129, SW131 and SW132. Overcast during the sampling of SW109, SW115 and SW116.</p> <p>12 January 2024 Light rain during the sampling of SW115, SW123 and SW131. Overcast during the sampling of SW010, SW016, SW102, SW117, SW118, SW125, SW127, SW129 and SW132. Humid during the sampling of SW014, SW017, SW108, SW109, SW112, SW116 and SW121.</p> <p>13 January 2024 Humid conditions during the sampling of all locations.</p> <p>14 January 2024 Light rain during the sampling of SW010, SW121, SW123, SW125, SW129 and SW132. Overcast during the sampling of SW014, SW016, SW017, SW102, SW108, SW109, SW112, SW115, SW116, SW117, SW118, SW127 and SW131.</p> <p>15 January 2024 Light rain during the sampling of SW127. Overcast during the sampling of SW014, SW017, SW102, SW112, SW121, SW129 and SW131. Humid during the sampling of SW010, SW016, SW108, SW109, SW115, SW116, SW117, SW118, SW123, SW125 and SW132.</p> <p>The daily rainfall totals recorded by the Bureau of Meteorology at the Townsville Aero Weather Station for the sampling event are presented in Plate 1 above.</p>

Item	Observations
Estate Management Works or Training Activities	CPB Construction activities were observed during the sampling event approximately 50 m to the northeast of SW010 (southeastern corner of Base). The sample location is upgradient of the discharge point adjacent to the construction activities however during heavy rainfall events this drain may back up and back flow may have occurred.

4.2 PFAS Surface Water Analytical Results

Of the 95 surface water samples collected during the 2024 rainfall sampling event, 81 samples reported concentrations of PFAS above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T2, Appendix B** with laboratory analytical reported presented in **Appendix E**.

There were no first-time detections or new exceedances of guideline values detected in surface water during this sampling event.

Surface water results from this sampling event were compared to the historical range of samples collected at each location. **Table 6** identifies the locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS.

Table 6 Locations of New Historical Maximum Concentrations for Surface Water

Compound	Location	
	On-Base	Off-Base
PFOS	SW010	
PFOA	SW010	SW115
Sum of PFOS+PFHxS	SW010	

Surface water sampling results were generally within the same order of magnitude as historically reported concentrations with the exception of SW010 sampled on 12 January 2024 which reported concentrations of PFOS and Sum of PFOS+PFHxS approximately four times higher than previous historical maximum concentrations.

5.0 Summary and Next Sampling Event

5.1 Summary of Sampling Event

A surface water sampling event was triggered by the occurrence of 64.4 mm rainfall on 11 January 2024. The sampling event was conducted on and off-Base for RAAF Base Townsville between 11 and 15 January 2024. The event included sampling of 19 surface water locations daily for five consecutive days.

Table 7 summarises the findings of the sampling event and the recommended actions.

Table 7 Summary of Sampling Event

Item	Comment	Recommended Actions
<u>Surface Water:</u> Access to sampling locations	All 19 surface water locations were accessed from 11 to 15 January 2024.	Ongoing monitoring in accordance with the OMP.
<u>Analytical Results</u>	2024 Rainfall Sampling Event: PFAS were detected above laboratory LOR in 81 of 95 surface water samples. New historical maximum concentrations were reported at one on-Base sampling location (SW010) and one off-Base sampling location (SW115). There were no first-time detections or new exceedances of human health and ecological screening criteria for PFOS+PFHxS or PFOA.	Ongoing monitoring in accordance with the OMP.
<u>Estate Management Works</u>	Construction activities were observed to be occurring on-Base during the sampling event in the southeastern corner of Base approximately 50 m northeast of sample location SW010. The sample location is upgradient of the discharge point for the construction activities however during heavy rainfall events this drain may back up and back flow may have occurred.	Ongoing monitoring in accordance with the OMP.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for March/April 2024.

5.3 Upcoming Ongoing Monitoring Report

The next Ongoing Monitoring Report is scheduled for June 2024.

6.0 References

- AECOM. (2023). *PFAS OMP RAAF Townsville Sampling, Analysis and Quality Plan, Rev 10, updated 16 August 2023*.
- Australian and New Zealand Governments and Australian state and territory governments [ANZG]. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
- Bureau of Meteorology. (2024, January 11). *Rainfall data, weather station 032040*. Retrieved from Climate Data Online.: http://www.bom.gov.au/climate/averages/tables/cw_032040.shtml
- Department of Defence. (2019, as amended July 2021). *Defence Contamination Management Manual*.
- Department of Defence. (2019b). *Routine Environment Water Quality Monitoring Manual*.
- Department of Defence. (2020). *PFAS Management Area Plan - RAAF Townsville*.
- Department of Defence. (2021). *PFAS OMP Factual Report Guidance, v2. May*.
- Department of Health. (2019). *Health Based Guidance Values for PFAS for use in site investigations in Australia, updated September 2019*.
- Heads of Environment Protection Agencies (HEPA). (2020). *PFAS National Environmental Management Plan (NEMP), version 2.0 - January 2020*.
- National Health and Medical Research Council (NHMRC). (2019). *Guidance on PFAS in Recreational Water*.
- NEPC. (1999, as amended May 2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guidance on Site Characterisation*.
- Standards Australia. (1998). *AS/NZS 5667.11-1998: Water Quality - Sampling - Guidance on Sampling of Groundwaters*.

Appendix A

Figures



AECOM



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

FIGURE 1:
RAAF BASE TOWNVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville (0874)
Rainfall Event Sampling Factual Report, January 2024
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International License © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

- Management Area
- Sub-Management Area

On_Off

- Off-Base
- On-Base

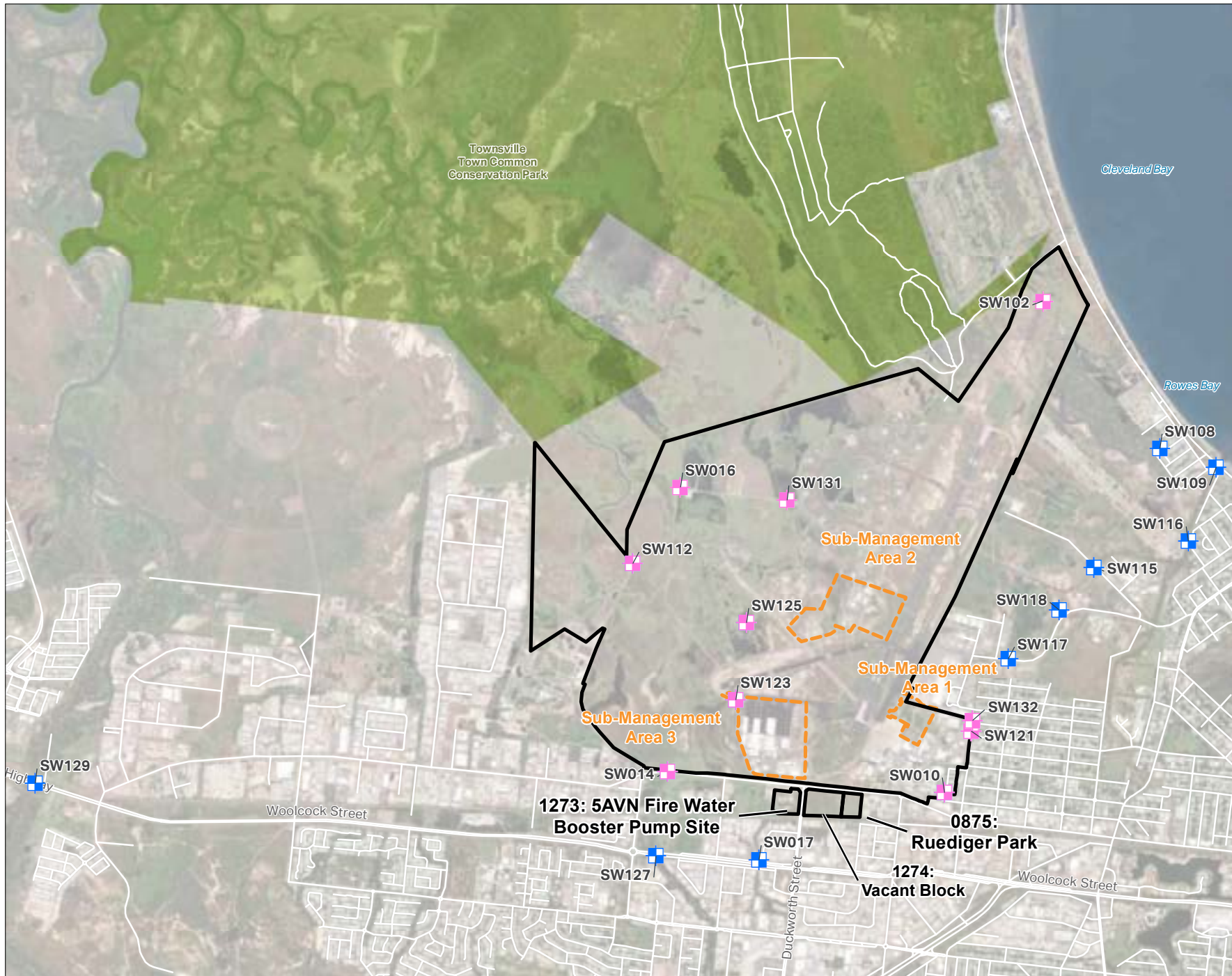


FIGURE 2:
RAINFALL EVENT
BASED SURFACE
WATER SAMPLING
LOCATIONS

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 PFAS OMP – RAAF Base Townsville
 (0874)
 Rainfall Event Sampling Factual Report,
 January 2024
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Appendix B

Analytical Tables

Table T1 - Field Parameter Results and Observations


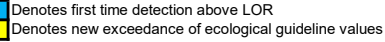
On/Off-Base	Catchment	Location Code	Sample ID	Sample Date	DO mg/L	EC µS/cm	pH -	Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Weather	Comment	
On-Base	Bohle River/Louisa Creek/Town Common	SW014	0874_SW014_240111	11/01/2024	4.41	217.7	7.3	103.3	308.3	27	7.42	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW014_240112	12/01/2024	3.83	292.2	7.12	66.4	271.4	28.1	5.36	Pale yellow	No odour	No sheen	Humid		
			0874_SW014_240113	13/01/2024	3.02	360.9	6.83	93.7	298.7	28.4	5.03	Pale yellow	No odour	No sheen	Humid		
			0874_SW014_240114	14/01/2024	2.87	396.2	6.87	-88.3	116.7	27.6	5.09	Yellowish Brown	Rotten egg smell (sulfurous)	No sheen	Overcast		
		SW016	0874_SW016_240111	11/01/2024	5.06	681	6.83	102.7	307.7	28.3	6.12	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW016_240112	12/01/2024	4.75	825	6.68	142.1	347.1	28.8	5.13	Pale yellow	No odour	No sheen	Overcast		
			0874_SW016_240113	13/01/2024	1.88	901	6.38	15.7	220.7	33.6	5.08	Pale yellow	No odour	No sheen	Humid		
			0874_SW016_240114	14/01/2024	3.67	543	6.56	74.3	279.3	28	7.07	Yellowish Brown	No odour	No sheen	Overcast		
		SW112	0874_SW112_240111	11/01/2024	4.52	520	6.66	89.6	294.6	30.2	5.32	Yellowish Brown	No odour	No sheen	Humid		
			0874_SW112_240112	12/01/2024	6.56	1069	7.32	123.8	328.8	29.4	4.55	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW112_240113	13/01/2024	4.46	1028	7.24	112.9	317.9	28.8	10.8	Light Olive Brown	No odour	No sheen	Humid		
			0874_SW112_240114	14/01/2024	7.34	566	7.17	108.7	313.7	30.4	3.36	Clear	No odour	No sheen	Humid		
		SW123	0874_SW112_240115	15/01/2024	7.15	1168	7.05	89	294	29.5	5.69	Clear	No odour	No sheen	Overcast		
			0874_SW123_240111	11/01/2024	7.45	1045	6.91	99.8	304.8	29.3	6.63	Clear	No odour	No sheen	Overcast		
			0874_SW123_240112	12/01/2024	7.61	157.7	8.66	-6.1	198.9	28.3	63.89	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW123_240113	13/01/2024	7.77	294.7	8.66	-10.4	194.6	28.9	32.12	Clear	No odour	No sheen	Light Rain		
		SW125	0874_SW123_240114	14/01/2024	8.69	408.7	7.51	29.9	234.9	32.1	34.5	Yellowish Brown	No odour	No sheen	Humid		
			0874_SW123_240115	15/01/2024	7.19	324.6	7.08	-20.8	184.2	27.9	36.56	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW125_240111	11/01/2024	9.21	537	8.95	-21.3	183.7	30.6	57.35	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW125_240112	12/01/2024	9.69	2460	9.2	-14.5	190.5	29.8	6.13	Light Olive Brown	No odour	No sheen	Overcast		
		SW131	0874_SW125_240113	13/01/2024	5.65	1642	6.58	14.4	219.4	31.2	6.65	Yellowish Brown	Rotten egg smell (sulfurous)	No sheen	Humid		
			0874_SW125_240114	14/01/2024	4.86	1416	6.41	-72.2	132.8	28	5.63	Yellowish Brown	No odour	No sheen	Light Rain		
			0874_SW125_240115	15/01/2024	8.86	716	8.8	-50.6	154.4	33.9	23.52	Yellowish Brown	No odour	No sheen	Humid		
			0874_SW131_240111	11/01/2024	3.19	1003	6.59	-108.9	96.1	26.9	7.88	Reddish Yellow	Rotten egg smell (sulfurous)	No sheen	Light Rain		
		SW131	0874_SW131_240112	12/01/2024	2.81	1254	6.33	-102	103	26.9	7.56	Dark Reddish Brown	Rotten egg smell (sulfurous)	No sheen	Light Rain		
			0874_SW131_240113	13/01/2024	2.79	1075	6.45	-103.4	101.6	29.1	9.47	Yellowish Brown	Rotten egg smell (sulfurous)	No sheen	Humid		
			0874_SW131_240114	14/01/2024	2.06	975	6.29	-105.8	99.2	28.1	9.04	Yellowish Brown	Rotten egg smell (sulfurous)	No sheen	Overcast		
			0874_SW131_240115	15/01/2024	3.33	981	6.45	-129.5	75.5	28.6	6.17	Dark Reddish Brown	Rotten egg smell (sulfurous)	No sheen	Overcast		
		Mundy Creek	SW010	0874_SW010_240111	11/01/2024	6.11	407.7	7.79	50.5	255.5	28.9	25.05	Light Olive Brown	No odour	No sheen	Light Rain	
				0874_SW010_240112	12/01/2024	5.49	788	7.54	55	260	28.3	5.8	Pale yellow	No odour	No sheen	Overcast	
				0874_SW010_240113	13/01/2024	8.75	1576	7.14	65.1	270.1	34.9	6.37	Pale yellow	No odour	No sheen	Humid	
				0874_SW010_240114	14/01/2024	6.18	249.5	7.09	23.9	228.9	28.7	19.16	Light Olive Brown	No odour	No sheen	Light Rain	
			SW121	0874_SW010_240115	15/01/2024	5.99	917	7.31	37.4	242.4	30.5	15.5	Light Olive Brown	No odour	No sheen	Humid	
				0874_SW121_240111	11/01/2024	4.15	226.2	7.25	55.9	260.9	28.5	7.42	Light Olive Brown	No odour	No sheen	Light Rain	
				0874_SW121_240112	12/01/2024	6.46	352.9	6.79	120.5	325.5	30.1	7.26	Light Olive Brown	No odour	Biosheen Appearance	Humid	
				0874_SW121_240113	13/01/2024	5.22	366.2	5.18	369.6	574.6	31.6	6.99	Yellowish Brown	No odour	No sheen	Humid	
			SW132	0874_SW121_240114	14/01/2024	4.2	194.6	6.91	21	226	28.4	37.49	Light Olive Brown	No odour	No sheen	Light Rain	
				0874_SW121_240115	15/01/2024	3.5	93.7	6.46	94.3	299.3	28.2	8.28	Yellowish Brown	No odour	No sheen	Overcast	
				0874_SW132_240111	11/01/2024	7.62	446.5	7.73	68	273	28.9	27.82	Light Olive Brown	No odour	No sheen	Light Rain	
				0874_SW132_240112	12/01/2024	13.59	1693	8.43	66.5	271.5	29.4	6.58	Clear	No odour	No sheen	Overcast	
Three Mile Creek	SW102	0874_SW132_240113	13/01/2024	14.8	2182	8.89	25.7	230.7	36.7	13.68	Clear	No odour	No sheen	Humid			
		0874_SW132_240114	14/01/2024	7.57	245	7.08	28.7	233.7	29.1	18.74	Light Olive Brown	No odour	No sheen	Light Rain			
		0874_SW132_240115	15/01/2024	10.77	889	8.2	26.2	231.2	31.2	17.76	Light Olive Brown	No odour	No sheen	Humid			
		0874_SW102_240111	11/01/2024	6.37	206.7	7.01	135.3	340.3	26.8	18.35	Light Olive Brown	No odour	No sheen	Light Rain			
Off-Base	Bohle River/Louisa Creek/Town Common	SW017	0874_SW102_240112	12/01/2024	5.21	289.1	7.22	113.4	318.4	28.1	9.14	Pale yellow	No odour	No sheen	Overcast		
			0874_SW102_240113	13/01/2024	4.81	433.7	6.89	78.9	283.9	30.7	4.9	Yellowish Brown	No odour	No sheen	Humid		
			0874_SW102_240114	14/01/2024	4.75	520	6.34	83.3	288.3	27.8	18.01	Yellowish Brown	No odour	No sheen	Overcast		
			0874_SW102_240115	15/01/2024	3.84	585	6.5	93.7	298.7	29.1	16.83	Yellowish Brown	No odour	No sheen	Overcast		
		SW127	0874_SW017_240111	11/01/2024	5.77	95.6	7.24	113.6	318.6	27.7	11.03	Light Olive Brown	No odour	Slight sheen	Light Rain		
			0874_SW017_240112	12/01/2024	3.62	267.1	7.03	110.4	315.4	29.1	11.34	Pale yellow	No odour	No sheen	Humid		
			0874_SW017_240113	13/01/2024	3.96	536	6.75	94.7	299.7	29.9	13.67	Pale Brown	No odour	No sheen	Humid		
			0874_SW017_240114	14/01/2024	3.63	652	6.62	-34	171	28.3	11.66	Clear	No odour	No sheen	Overcast		
		SW129	0874_SW017_240115	15/01/2024	6.17	117.3	7.14	64.8	269.8	27.1	16	Brown	No odour	No sheen	Overcast		
			0874_SW127_240111	11/01/2024	4.28	166.4	6.91	162	367	27.2	6.02	Light Olive Brown	No odour	No sheen	Light Rain		
			0874_SW127_240112	12/01/2024	3.15	224.3	6.3	206	411	27.4	6.06	Light Olive Brown	No odour	No sheen	Overcast		
			0874_SW127_240113	13/01/2024	3.78	305.9	6.5	117.2	322.2	28.8	15.3	Pale yellow	No odour	No sheen	Humid		
Mundy Creek	SW108	0874_SW127_240114	14/01/2024	6.1	77.9	6.55	100.4	305.4	26.9	3.44	Clear	No odour	No sheen	Overcast			
		0874_SW127_240115	15/01/2024	5.79	177.4	6.62	125	330	27.1	4.14	Yellowish Brown	No odour	No sheen	Light Rain			
		0874_SW129_240111	11/01/2024	5.69	1478	7.08	130.8	335.8	28.7	33.56	Light Olive Brown	No odour	No sheen	Light Rain			
		0874_SW129_240112	12/01/2024	5.46	3234	6.67	194.8	399.8	27.8	47	Dark Olive Brown	No odour	No sheen	Overcast			
Mundy Creek	SW108	0874_SW129_240113	13/01/2024	4.98	1596	6.91	120.3	325.3	29.1	16.95	Brown	No odour	No sheen	Humid			
		0874_SW129_240114	14/01/2024	6.43	2027	6.22	76.2	281.2	26.8	38.56	Light Olive Brown	No odour	No sheen	Light Rain			
		0874_SW129_240115	15/01/2024	6.4	309.6	6.73	109.3	314.3	27.3	77.4	Yellowish Brown	Rotten egg smell (sulfurous)	No sheen	Overcast			
		0874_SW108_240111	11/01/2024	6.92	4570	6.97	109	314	29	18.08	Light Olive Brown	No odour	No sheen	Light Rain			
Mundy Creek	SW108	0874_SW108_240112	12/01/2024	7.63	31752	7.4	97	302	31.4	11.37	Light Olive Brown	No odour	No sheen	Humid			
		0874_SW108_240113	13/01/2024	8.99	36671	7.55	71.5	276.5	35.7	12.76	Pale yellow	No odour	No sheen	Humid			
		0874_SW108_240114	14/01/2024	-	11980	7.86	39.8	244.8	32.5	7.91	Yellowish Brown	No odour	No sheen	Overcast			
		0874_SW108_240115	15/01/2024	4.16	3539	6.64	50.2	255.2	31.7	9.36	Light Olive Brown	No odour	No sheen	Humid			

On/Off-Base	Catchment	Location Code	Sample ID	Sample Date	DO mg/L	EC µS/cm	pH -	Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Weather	Comment
Off-Base	Mundy Creek	SW109	0874_SW109_240111	11/01/2024	6.13	2382	6.87	125.6	330.6	27.9	46.76	Light Olive Brown	No odour	No sheen	Overcast	
			0874_SW109_240112	12/01/2024	6.79	18966	7.26	82.9	287.9	29.1	30.65	Light Olive Brown	No odour	No sheen	Humid	
			0874_SW109_240113	13/01/2024	6.41	37063	7.52	69.9	274.9	29.9	21.3	Pale yellow	No odour	No sheen	Humid	
			0874_SW109_240114	14/01/2024	6.22	44766	7.73	80.7	285.7	28.9	17.35	Light Olive Brown	No odour	No sheen	Overcast	
		0874_SW109_240115	15/01/2024	5.64	8429	6.8	76.4	281.4	28.6	21.77	Yellowish Brown	No odour	No sheen	Humid		
		SW115	0874_SW115_240111	11/01/2024	5.76	533	7.1	107.2	312.2	28.7	13.49	Light Olive Brown	No odour	No sheen	Overcast	
			0874_SW115_240112	12/01/2024	-	1317	7.42	87.8	292.8	29.5	9.86	Light Olive Brown	No odour	No sheen	Light Rain	
			0874_SW115_240113	13/01/2024	6.47	2242	7.13	63.1	268.1	32.4	25.38	Pale yellow	No odour	No sheen	Humid	
			0874_SW115_240114	14/01/2024	5.33	2444	6.57	96.4	301.4	29.2	15.01	Light Olive Brown	No odour	No sheen	Overcast	
		0874_SW115_240115	15/01/2024	5.4	1222	7.03	61.8	266.8	29.5	15.3	Light Olive Brown	No odour	No sheen	Humid		
		SW116	0874_SW116_240111	11/01/2024	5.67	800	7	92.4	297.4	28.2	21.88	Light Olive Brown	No odour	No sheen	Overcast	
			0874_SW116_240112	12/01/2024	6.24	1844	7.13	86.8	291.8	28.5	23.66	Light Olive Brown	No odour	No sheen	Humid	
			0874_SW116_240113	13/01/2024	6.05	21693	6.94	92	297	30.7	19.32	Yellow	No odour	No sheen	Humid	
			0874_SW116_240114	14/01/2024	5.5	17322	6.8	94	299	28.7	18.11	Yellowish Brown	No odour	No sheen	Overcast	
		0874_SW116_240115	15/01/2024	4.72	1530	6.7	64.6	269.6	28.6	21.37	Light Olive Brown	No odour	No sheen	Humid		
		SW117	0874_SW117_240111	11/01/2024	7.92	356.1	7.41	83.8	288.8	28.8	19.37	Light Olive Brown	No odour	No sheen	Light Rain	
			0874_SW117_240112	12/01/2024	8.66	1507	9.02	38	243	29.7	6.13	Clear	No odour	No sheen	Overcast	
			0874_SW117_240113	13/01/2024	4.63	1856	8.09	-11.5	193.5	31.8	4.31	Pale yellow	No odour	No sheen	Humid	
			0874_SW117_240114	14/01/2024	7.89	386.5	7.49	63.1	268.1	29.2	16.37	Yellowish Brown	No odour	No sheen	Overcast	
		0874_SW117_240115	15/01/2024	10.2	589	8.74	3.3	208.3	31.7	19.11	Yellowish Brown	No odour	No sheen	Humid		
		SW118	0874_SW118_240111	11/01/2024	6.56	468.2	7.27	99.6	304.6	28.4	17.5	Olive Yellow	No odour	No sheen	Light Rain	
			0874_SW118_240112	12/01/2024	4.3	1122	7.61	67.6	272.6	28.1	6.88	Clear	No odour	No sheen	Overcast	
			0874_SW118_240113	13/01/2024	5.31	1993	7.29	32.7	237.7	31.7	4.17	Pale yellow	No odour	No sheen	Humid	
			0874_SW118_240114	14/01/2024	6.54	382.1	7.42	59.6	264.6	29.2	7.67	Clear	No odour	No sheen	Overcast	
		0874_SW118_240115	15/01/2024	6	372.3	7.74	24.6	229.6	29.1	15.68	Light Olive Brown	No odour	No sheen	Humid		

DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µs/cm - Microsiemens per centimetre
 mV - millivolt
 °C - degrees Celsius
 "-" denotes no data recorded/data lost

	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)	Perfluorododecanoic acid (PFDoDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSEA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSEA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSEA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSEA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFHxS and PFOA	Sum of PFAS (WA DER List)	
LOR	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	0.05	0.02	0.02	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01	0.01	0.01	
PFAS NEMP Freshwater and Marine 95% Species Protection					0.13						220																					
PFAS NEMP - Recreational Use - Surface Water											10																				2	

On/Off-Base	Catchment	Location Code	Sampled Date	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)	Perfluorododecanoic acid (PFDoDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSEA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSEA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSEA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSEA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFHxS and PFOA	Sum of PFAS (WA DER List)		
Off-Base	Mundy Creek	SW115	11/01/2024	0.06	0.04	0.44	<0.02	0.46	<0.02	<0.1	0.03	0.12	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.18	0.9	1.14	
			12/01/2024	0.1	0.07	0.6	0.04	1.18	<0.02	<0.1	0.04	0.16	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.23	1.78	2.12
			13/01/2024	0.25	0.26	1.88	0.1	2.2	<0.02	<0.1	0.1	0.51	0.07	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	5.51	4.08	5.15
			14/01/2024	0.65	0.47	3.47	0.17	3.94	<0.02	0.2	0.31	1.46	0.25	0.56	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	11.5	7.41	10.8
			15/01/2024	0.1	0.06	0.52	0.03	0.9	<0.02	<0.1	0.04	0.18	0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.9	1.42	1.81
		SW116	11/01/2024	0.04	0.03	0.36	<0.02	0.38	<0.02	<0.1	0.03	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.95	0.74	0.92
			12/01/2024	0.09	0.06	0.58	0.03	0.95	<0.02	<0.1	0.04	0.15	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.94	1.53	1.85
			13/01/2024	0.06	0.05	0.42	0.02	0.5	<0.02	<0.1	0.02	0.12	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.23	0.92	1.16
			14/01/2024	0.08	0.06	0.49	0.03	0.66	<0.02	<0.1	0.03	0.16	0.03	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.6	1.15	1.51
			15/01/2024	<0.04	0.02	0.2	<0.02	0.36	<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	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.67	0.56	0.65
		SW117	11/01/2024	0.11	0.08	0.71	<0.02	0.9	<0.02	<0.1	0.06	0.26	0.05	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.26	1.61	2.18
			12/01/2024	1.2	1.08	6.13	0.31	8.67	<0.02	0.4	0.55	2.94	0.55	1.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	22.9	14.8	21.5
			13/01/2024	1.5	1.38	8.78	0.46	9.41	<0.02	0.4	0.73	3.59	0.64	1.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.06	<0.06	<0.06	<0.06	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	28.2	18.2	26.3
			14/01/2024	0.04	0.03	0.3	<0.02	0.67	<0.02	<0.1	0.03	0.13	0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.27	0.97	1.24
			15/01/2024	0.16	0.1	0.8	0.04	1.29	<0.02	<0.1	0.09	0.38	0.06	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.04	2.09	2.9
		SW118	11/01/2024	0.18	0.15	1.24	0.03	1.38	<0.02	<0.1	0.1	0.46	0.09	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.77	2.62	3.59
			12/01/2024	0.33	0.32	1.78	0.09	2.02	<0.02	0.1	0.16	0.78	0.14	0.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	6.01	3.8	5.6
			13/01/2024	0.8	0.8	5.03	0.26	6.46	<0.02	0.3	0.41	2.03	0.37	0.75	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	17.2	11.5	16.2
			14/01/2024	0.09	0.08	0.67	0.04	1.38	<0.02	<0.1	0.05	0.24	0.04	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.7	2.05	2.58
			15/01/2024	0.08	0.05	0.37	<0.02	0.6	<0.02	<0.1	0.04	0.16	0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.37	0.97	1.32

LOR is limit of reporting
 µg/L is micrograms per litre
 < denotes concentration is less than
 NEMP is National Environmental Management Plan
 Denotes first time detection above LOR
 Denotes new exceedance of ecological guideline values

Appendix C

Data Validation

DATA VALIDATION REPORT			
Project No.:	60612487	Validation by: SB	Date: 01/02/2024
Client:	Department of Defence		
Site:	RAAF Townsville (0874)		
Matrix type:	Surface water	Data verified by: CJ	Date: 01/02/2024
No. of primary samples:	95 surface water (January 2024)		
Laboratory:	ALS (Brisbane), Eurofins (Brisbane)	Project Manager: CJ	
Lab reference:	ET2400201, 1059679		
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 considered appropriate for use to meet the project objectives.		
Field QA/QC			
Sampling personnel	Sampling was conducted by AECOM personnel on five consecutive days from 11 January 2024 to 15 January 2024.		
Sampling Methodology	Surface water samples were collected using appropriate methods as identified within the main body of the report. Surface water samples were collected from immediately below the water surface.		
Chain of Custody (COC)	COC documents completed as per AECOM procedures.		
Rinsate Blank	Rinsate blank samples were collected at a frequency of one per day per piece of equipment that was decontaminated (five in total). Concentrations of all analytes tested were reported below the LOR for rinsate samples (refer Table C1 attached).		
Trip Blanks	Three trip blanks were used during the sampling program to accompany samples collected in the field with two eskies delivered to the laboratory (ET2400201). All three trip blanks used in the field were therefore analysed instead of the rate nominated in the SAQP of one per batch. One trip blank sample was submitted with samples analysed by the secondary laboratory (1059679). Concentrations were reported below the LOR (Refer Table C1 attached).		
Eskies to Laboratory	A total of two eskies of samples were submitted to ALS and one esky was submitted to Eurofins across the January 2024 sampling event.		
Frequency of field QC	Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a target frequency of one in ten primary samples. Target frequencies were met with the following frequency: <ul style="list-style-type: none"> Ten duplicates and triplicates for surface water (10.53%). 		
Handling and preservation	Primary, duplicate, and triplicate samples were received, preserved, and chilled at the laboratory. Sample receipt temperature was reported between 3.3°C and 4.5°C by the primary laboratory with attempt to chill evident. The receiving temperature recorded by the secondary laboratory was reported as 8.3°C, an attempt to chill was recorded and the samples were noted as being received in good condition. The samples were stored in a fridge prior to direct delivery to the laboratory.		

Equipment Calibration	<p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted. Upon receipt at the laboratory the samples were chilled prior to analysis.</p> <p>Calibration of the water quality meter was conducted each day before sampling, see Appendix F.</p>
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 Eurofins Environmental Testing Australia Pty Ltd (Brisbane), also a NATA accredited laboratory.
Frequency of laboratory QC	The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision for all quality control requirements including laboratory duplicates, laboratory control samples, method blanks, and matrix spikes.
Method Blank	No method blank outliers occurred. All analytes were found to be below LOR in method blanks.
Laboratory duplicate RPDs	No duplicate outliers occurred. Laboratory duplicate Relative Percentage Differences (RPD) were within control limits.
Laboratory control spike (LCS) recovery	<p>All LCS recoveries were reported within acceptable limits, except QC-5553065-002 and QC-5553064-002 in batch ET2400201, where:</p> <ul style="list-style-type: none"> PFDS in water reported a spike recovery of 145%, exceeding the upper limit of 142% in sample QC-5553065-002. 10:2 FTS in water recorded a spike recovery of 61%, below the acceptable limit of 64.2% in sample QC-5553064-002. <p>This indicates that PFDS concentrations may be reported higher than their true value and 10:2 FTS may be reported lower than their true value. No detections of PFDS or 10:2 FTS were reported for samples in ET2400201, and results for these analytes show agreement with inter-laboratory results. Therefore, the dataset is not affected by the reported spike recovery outliers.</p>
Matrix spike recovery	<p>All matrix spike (MS) recoveries were within control limits, except:</p> <ul style="list-style-type: none"> 0874_SW115_240114 in batch ET2400201 for PFHxS and PFOS where the recovery was not determined due to the background level being greater than or equal to four times the spike level. This indicates that the concentration within the sample was higher than the spiked concentration. 0874_SW108_240113 in batch ET2400201 for PFTrDA where the recovery of 55% was less than the lower data quality objective of 65%; and for 10:2 FTS where the recovery of 54% was less than the lower data quality objective of 70%. <p>Where the MS recoveries were lower than the control limits, there is a potential that PFAS concentrations have been under-reported in these samples. No PFAS was detected in 0874_SW108_240113, consistent with other samples collected from this location from this sampling event and historic results, and therefore likely has no impact on overall data quality.</p>
Surrogate spike recovery	No surrogate spike recovery outliers occurred.

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	<p>Limit of Reporting (LOR) values were adjusted for in laboratory batch ET2400201 for the following samples:</p> <ul style="list-style-type: none">• 0874_SW123_240113, 0874_SW123_240114, 0874_SW125_240113: Diluted due to high-level contaminants, LORs adjusted accordingly.• 0874_SW112_240115, 0874_QC108_240115: LOR of PFBS and PFOS raised due to matrix interference.• 0874_SW112_240113, 0874_SW112_240114, 0874_SW121_240114: LOR of PFBS raised due to matrix interference. <p>The adjusted LORs were sufficiently low to enable assessment against adopted screening levels (where relevant) in these samples.</p>
Field duplicate RPDs	Field duplicate RPDs (as shown in Table C2) were all reported within control limits.
Field triplicate RPDs	<p>Field triplicate RPDs (as shown in Table C2) were reported within control limits with the exception of the following:</p> <ul style="list-style-type: none">• 0874_SW131_240112 and 0874_QC202_240112 for PFOS (58%), PFHxS (33%), PFPeS (36%), Sum of PFHxS and PFOS (47%), and Sum of PFAS (40%).• 0874_SW010_240113 and 0874_QC204_240113: PFOS (31%) and PFHxA (31%). <p>The sample with the higher concentration is in bold.</p> <p>Triplicate concentrations were within the same order of magnitude compared to the concentrations in the primary sample, with the exception of calculated results for Sum of PFHxS and PFOS and Sum of PFAS; therefore, discrepancies are not considered to impact interpretation of results.</p> <p>The field triplicate RPDs are generally higher for samples analysed by Eurofins compared to ALS. The variability between the primary and triplicate results is inferred to be the result of slight differences in analytical methods and difference in extraction techniques employed by the two laboratories. This is demonstrated through the laboratory duplicate results being within acceptable limits.</p>

Table C1 - Rinsate and Trip Blanks

Lab Report Number	1059679	ET2400201	ET2400201	ET2400201	ET2400201	ET2400201	ET2400201	ET2400201	ET2400201
Field ID	0874_QC501_240116	0874_QC300_240111	0874_QC301_240112	0874_QC302_240113	0874_QC303_240114	0874_QC304_240115	0874_QC502_240115	0874_QC503_240115	0874_QC503_240115
Date	16 Jan 2024	11 Jan 2024	12 Jan 2024	13 Jan 2024	14 Jan 2024	15 Jan 2024	15 Jan 2024	15 Jan 2024	15 Jan 2024
Sample Type	Trip Blank	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank	Trip Blank	Trip Blank

Chemical Name	Unit	EQL	0874_QC501_240116	0874_QC300_240111	0874_QC301_240112	0874_QC302_240113	0874_QC303_240114	0874_QC304_240115	0874_QC502_240115	0874_QC503_240115
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	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
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<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	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
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-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
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
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	µg/L	0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table C2 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2400201		ET2400201		1059679		ET2400201		ET2400201		1059679		ET2400201		ET2400201		1059679		
Field ID	0874 SW102 240111	0874 QC100 240111		0874 QC200 240111		0874 SW121 240111	0874 QC101 240111		0874 QC201 240111		0874 SW131 240112	0874 QC102 240112		0874 QC202 240112		0874 QC202 240112			
Matrix Type	WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		
Date	11 Jan 2024		11 Jan 2024		11 Jan 2024		11 Jan 2024		11 Jan 2024		12 Jan 2024		12 Jan 2024		12 Jan 2024		12 Jan 2024		
Sample Type	Primary		Duplicate		RPD	Triplicate		RPD	Primary		Duplicate		RPD	Triplicate		RPD	Triplicate		RPD

Chemical Name	Unit	EQL	ET2400201		ET2400201		1059679		ET2400201		ET2400201		1059679		ET2400201		ET2400201		1059679	
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	<0.01	0.01	0	0.01	0	0.20	0.21	5	0.25	22			
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.48	0.48	0	0.59	21	0.20	0.20	0	0.27	30	3.42	3.58	5	6.2	58			
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.30	0.28	7	0.24	22	0.41	0.44	7	0.32	25	3.01	3.19	6	4.2	33			
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC			
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC			
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	0	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC			
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC			
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC			
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC			
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.06	<0.06	NC	<0.01	NC			
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.02	0.02	0	0.02	0	0.05	0.05	0	0.04	22	0.37	0.44	17	0.53	36			
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	NC	0.01	0	0.02	<0.02	0	0.02	0	0.23	0.22	4	0.27	16			
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC			
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.04	0.04	0	0.03	29	0.07	0.06	15	0.04	55	1.11	1.11	0	1.1	1			
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	NC	0.02	0	<0.02	<0.02	NC	<0.01	NC	0.14	0.15	7	0.17	19			
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.11	0.09	20	0.13	17			
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC			
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC			
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC			
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.04	0.03	29	0.03	29	0.07	0.07	0	0.06	15	0.42	0.43	2	0.47	11			
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC	0.1	0.1	0	0.20	67			
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.06	<0.06	NC	<0.05	NC			
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.06	<0.06	NC	<0.05	NC			
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.06	<0.06	NC	<0.05	NC			
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.06	<0.06	NC	<0.05	NC			
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC			
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC			
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC			
Sum of PFHxS and PFOS	µg/L	0.01	0.78	0.76	3	0.83	6	0.61	0.64	5	0.59	3	6.43	6.77	5	10.4	47			
Sum of PFAS	µg/L	0.01	0.88	0.85	3	0.94	7	0.82	0.83	1	0.78	5	9.11	9.52	4	13.65	40			
Sum of PFAS (WA DER List)	µg/L	0.01	0.86	0.83	4	-	-	0.77	0.78	1	-	-	8.60	8.93	4	-	-			

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2400201	ET2400201		1059679		ET2400201	ET2400201		1059679		ET2400201	ET2400201		1059679	
Field ID	0874 SW117 240112	0874 QC103 240112		0874 QC203 240112		0874 SW010 240113	0874 QC104 240113		0874 QC204 240113		0874 SW115 240113	0874 QC105 240113		0874 QC205 240113	
Matrix Type	WATER	WATER		WATER		WATER	WATER		WATER		WATER	WATER		WATER	
Date	12 Jan 2024	12 Jan 2024		12 Jan 2024		13 Jan 2024	13 Jan 2024		13 Jan 2024		13 Jan 2024	13 Jan 2024		13 Jan 2024	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL															
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	1.10	1.04	6	1.2	9	0.26	0.26	0	0.29	11	0.14	0.14	0	0.12	15
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	8.67	8.26	5	11	24	3.14	3.21	2	4.3	31	2.20	2.13	3	2.2	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	6.13	6.05	1	6.2	1	1.24	1.27	2	1.3	5	1.88	1.82	3	1.5	22
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	0.07	0.07	0	0.07	0	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.06	<0.06	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	1.08	1.01	7	0.95	13	0.16	0.17	6	0.15	6	0.26	0.25	4	0.18	36
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.55	0.55	0	0.55	0	0.20	0.20	0	0.19	5	0.10	0.10	0	0.09	11
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	0.02	0	0.03	0.02	40	0.03	0	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	2.94	2.87	2	2.4	20	0.49	0.51	4	0.36	31	0.51	0.52	2	0.43	17
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.31	0.28	10	0.29	7	0.08	0.08	0	0.07	13	0.10	0.09	11	0.06	50
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.55	0.53	4	0.48	14	0.13	0.14	7	0.11	17	0.07	0.08	13	0.05	33
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	1.20	1.07	11	1.1	9	0.21	0.20	5	0.18	15	0.25	0.26	4	0.20	22
Perfluorobutanoic acid (PFBA)	µg/L	0.05	0.4	0.4	0	0.43	7	0.1	0.1	0	0.14	33	<0.1	<0.1	NC	0.07	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
Sum of PFHxS and PFOS	µg/L	0.01	14.8	14.3	3	17.2	15	4.38	4.48	2	5.6	24	4.08	3.95	3	3.7	10
Sum of PFAS	µg/L	0.01	22.9	22.1	4	24.93	8	6.11	6.23	2	7.28	17	5.51	5.39	2	4.97	10
Sum of PFAS (WA DER List)	µg/L	0.01	21.5	20.8	3	-	-	5.84	5.96	2	-	-	5.15	5.05	2	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2400201	ET2400201		1059679		ET2400201	ET2400201		1059679		ET2400201	ET2400201		1059679	
Field ID	0874 SW014 240114	0874 QC106 240114		0874 QC206 240114		0874 SW118 240114	0874 QC107 240114		0874 QC207 240114		0874 SW014 240115	0874 QC108 240115		0874 QC208 240115	
Matrix Type	WATER	WATER		WATER		WATER	WATER		WATER		WATER	WATER		WATER	
Date	14 Jan 2024	14 Jan 2024		14 Jan 2024		14 Jan 2024	14 Jan 2024		14 Jan 2024		15 Jan 2024	15 Jan 2024		15 Jan 2024	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL															
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.11	0.11	0	0.10	10	<0.01	<0.01	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	NC	0.01	0	1.38	1.42	3	1.7	21	0.01	<0.02	0	0.02	67
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.67	0.68	1	0.79	16	<0.01	<0.01	NC	0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.08	0.08	0	0.10	22	<0.02	<0.02	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.05	0.05	0	0.06	18	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.24	0.23	4	0.20	18	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.04	0.04	0	0.05	22	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.04	0.04	0	0.04	0	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.09	0.09	0	0.10	11	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	NC	0.01	0	2.05	2.10	2	2.49	19	0.01	<0.01	0	0.03	100
Sum of PFAS	µg/L	0.01	<0.01	<0.01	NC	<0.1	NC	2.70	2.74	1	3.16	16	0.01	<0.01	0	<0.1	0
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	NC	-	-	2.58	2.62	2	-	-	0.01	<0.01	0	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2400201	ET2400201	1059679
Field ID	0874 SW117 240115	0874 QC109 240115	0874 QC209 240115
Matrix Type	WATER	WATER	WATER
Date	15 Jan 2024	15 Jan 2024	15 Jan 2024
Sample Type	Primary	Duplicate	Triplicate

Chemical Name	Unit	EQL			RPD		RPD
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.12	0.12	0	0.12	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	1.29	1.25	3	1.2	7
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.80	0.79	1	0.99	21
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorotridecanoic acid (PFTTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.10	0.10	0	0.12	18
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.09	0.09	0	0.08	12
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.38	0.37	3	0.28	30
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.04	0.04	0	0.05	22
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.06	0.06	0	0.06	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.16	0.16	0	0.15	6
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	0.06	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC
Sum of PFHxS and PFOS	µg/L	0.01	2.09	2.04	2	2.19	5
Sum of PFAS	µg/L	0.01	3.04	2.98	2	3.14	3
Sum of PFAS (WA DER List)	µg/L	0.01	2.90	2.84	2	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (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 Records



Environmental Division
Townsville
Work Order Reference
ET2400201



Telephone: 07 4773 0000

Custody Document for Submissions via ALS Compass App

Project: 60612487.2.1 Client: AECOM Project Manager: _____
Phone: _____

ALS Compass COC Reference: 62359 # Samples: 112 Sampler: _____
Phone: _____

Turnaround Requirements: Standard 5day Urgent _____

Special Instructions: <i>Please see attached table of potential high contamination samples.</i>	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:

Relinquished by: 	Received by: 	Relinquished by:	Received by:
Date / Time: <u>16/1/24 10:45am</u>	Date / Time: <u>17.1.24 820</u>	Date / Time:	Date / Time:

Lab Sample IDs	Locations	Concentration Range (µg/L)
012	SW010, SW108, SW109, SW116, SW121	1 to 10
035		
056		
079		
101		
021		
043		
066		
086		
109		
020		
042		
064		
085		
108		
019		
041		
063		
084		
107		
014		
028		
050		
072		
095		
008	SW016, SW115, SW131	Up to 20
030		
052		
074		
097		
018		
040		
061		
083		
106		
009		
031		
053		
075		
098		
006	SW102, SW118	Up to 30
026		
051		
073		
096		
017		
039		
060		
082		
105		
016	SW117	Up to 60
037		
059		
081		
103	SW123, SW132	Up to 90
011		
034		
055		
077		
100		
013		
036		
058	SW125	Up to 300
080		
102		
010		
033		
054	SW125	Up to 300
076		
099		

17.1.24
8.20



CHAIN OF CUSTODY

COCH#: 62359

ALS Laboratory: ET Townsville
Environmental

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFA5OMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU001

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW127_240111		11/01/2024 10:38 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
002	0874_SW129_240111		11/01/2024 10:53 AM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0874_SW112_240111		11/01/2024 11:57 AM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0874_SW014_240111		11/01/2024 12:28 PM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0874_SW017_240111		11/01/2024 12:38 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
006	0874_SW102_240111		11/01/2024 01:10 PM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0874_QC100_240111		11/01/2024 01:11 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD 0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU001

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATR:X	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0874_SW016_240111		11/01/2024 01:27 PM	WATER	ALS: 2 Non ALS: 0	No	X		
009	0874_SW131_240111		11/01/2024 01:35 PM	WATER	ALS: 2 Non ALS: 0	No	X		
010	0874_SW125_240111		11/01/2024 01:51 PM	WATER	ALS: 4 Non ALS: 0	No	X		Contamination: Previous results Extra vol for lab QC
011	0874_SW123_240111		11/01/2024 02:03 PM	WATER	ALS: 2 Non ALS: 0	No	X		Contamination: Previous results
012	0874_SW010_240111		11/01/2024 02:25 PM	WATER	ALS: 2 Non ALS: 0	No	X		
013	0874_SW132_240111		11/01/2024 02:34 PM	WATER	ALS: 2 Non ALS: 0	No	X		
014	0874_SW121_240111		11/01/2024 03:07 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COG#: 62359 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0874_QC101_240111		11/01/2024 03:06 PM	WATER	ALS: 2 Non ALS: 0	No	X		
016	0874_SW117_240111		11/01/2024 03:27 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
017	0874_SW118_240111		11/01/2024 03:33 PM	WATER	ALS: 2 Non ALS: 0	No	X		
018	0874_SW115_240111		11/01/2024 03:49 PM	WATER	ALS: 2 Non ALS: 0	No	X		
019	0874_SW116_240111		11/01/2024 04:09 PM	WATER	ALS: 2 Non ALS: 0	No	X		
020	0874_SW109_240111		11/01/2024 04:24 PM	WATER	ALS: 2 Non ALS: 0	No	X		
021	0874_SW108_240111		11/01/2024 04:33 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0874_QC300_240111		11/01/2024 04:36 PM	WATER	ALS: 2 Non ALS: 0	No	X		
023	0874_SW127_240112		12/01/2024 09:29 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
024	0874_SW129_240112		12/01/2024 09:45 AM	WATER	ALS: 2 Non ALS: 0	No	X		
025	0874_SW112_240112		12/01/2024 10:31 AM	WATER	ALS: 2 Non ALS: 0	No	X		
026	0874_SW014_240112		12/01/2024 10:50 AM	WATER	ALS: 2 Non ALS: 0	No	X		
027	0874_SW017_240112		12/01/2024 10:59 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
028	0874_SW121_240112		12/01/2024 11:18 AM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

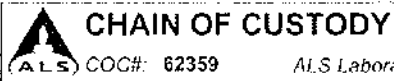
CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0874_SW102_240112		12/01/2024 01:16 PM	WATER	ALS: 2 Non ALS: 0	No	X		
030	0874_SW016_240112		12/01/2024 12:04 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
031	0874_SW131_240112		12/01/2024 12:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
032	0874_QC102_240112		12/01/2024 12:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
033	0874_SW125_240112		12/01/2024 12:35 PM	WATER	ALS: 2 Non ALS: 0	No	X		
034	0874_SW123_240112		12/01/2024 12:45 PM	WATER	ALS: 2 Non ALS: 0	No	X		
035	0874_SW010_240112		12/01/2024 01:28 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC



COC#: 62359 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD 0874 PFASOMP 24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
036	0874_SW132_240112		12/01/2024 01:40 PM	WATER	ALS: 2 Non ALS: 0	No	X		
037	0874_SW117_240112		12/01/2024 01:59 PM	WATER	ALS: 2 Non ALS: 0	No	X		
038	0874_QC103_240112		12/01/2024 01:56 PM	WATER	ALS: 2 Non ALS: 0	No	X		
039	0874_SW118_240112		12/01/2024 02:05 PM	WATER	ALS: 2 Non ALS: 0	No	X		
040	0874_SW115_240112		12/01/2024 02:23 PM	WATER	ALS: 2 Non ALS: 0	No	X		
041	0874_SW116_240112		12/01/2024 02:36 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
042	0874_SW109_240112		12/01/2024 02:59 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PHI: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

Random Sample Temperature on Receipt: C
 Other comments:

EMAIL REPORTS TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
057	0874_QC104_240113		13/01/2024 01:05 PM	WATER	ALS: 2 Non ALS: 0	No	X		
058	0874_SW132_240113		13/01/2024 01:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
059	0874_SW117_240113		13/01/2024 01:27 PM	WATER	ALS: 2 Non ALS: 0	No	X		
060	0874_SW118_240113		13/01/2024 01:35 PM	WATER	ALS: 2 Non ALS: 0	No	X		
061	0874_SW115_240113		13/01/2024 01:48 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab CC
062	0874_QC105_240113		13/01/2024 01:49 PM	WATER	ALS: 2 Non ALS: 0	No	X		
063	0874_SW116_240113		13/01/2024 01:59 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFEASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO. EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_SW109_240113		13/01/2024 02:13 PM	WATER	ALS: 2 Non ALS: 0	No	X		
065	0874_QC302_240113		13/01/2024 02:15 PM	WATER	ALS: 2 Non ALS: 0	No	X		
066	0874_SW108_240113		13/01/2024 02:22 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
067	0874_SW127_240114		14/01/2024 09:01 AM	WATER	ALS: 2 Non ALS: 0	No	X		
068	0874_SW129_240114		14/01/2024 09:17 AM	WATER	ALS: 2 Non ALS: 0	No	X		
069	0874_SW112_240114		14/01/2024 10:19 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
070	0874_SW014_240114		14/01/2024 10:20 AM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD 0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
078	0874_QC106_240114		14/01/2024 10:21 AM	WATER	ALS: 2 Non ALS: 0	No	X		
079	0874_SW010_240114		14/01/2024 12:19 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
080	0874_SW132_240114		14/01/2024 12:28 PM	WATER	ALS: 2 Non ALS: 0	No	X		
081	0874_SW117_240114		14/01/2024 01:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
082	0874_SW118_240114		14/01/2024 01:32 PM	WATER	ALS: 2 Non ALS: 0	No	X		
083	0874_SW115_240114		14/01/2024 01:33 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
084	0874_SW116_240114		14/01/2024 01:43 PM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

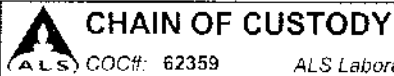
RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD 0874 PFASOMP 24
 SITE: QLD_0874
 ORDER NO: 60612487 2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:
 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
085	0874_SW109_240114		14/01/2024 01:51 PM	WATER	ALS: 2 Non ALS: 0	No	X		
086	0874_SW108_240114		14/01/2024 01:58 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for an OC
087	0874_QC107_240114		14/01/2024 01:32 PM	WATER	ALS: 2 Non ALS: 0	No	X		
088	0874_QC303_240114		14/01/2024 02:01 PM	WATER	ALS: 2 Non ALS: 0	No	X		
089	0874_SW127_240115		15/01/2024 09:41 AM	WATER	ALS: 2 Non ALS: 0	No	X		
090	0874_SW129_240115		15/01/2024 09:59 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
091	0874_SW112_240115		15/01/2024 10:35 AM	WATER	ALS: 2 Non ALS: 0	No	X		



ALS COC#: 62359 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP_24
SITE: QLD_0874
ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: C
Other comments:

PROJECT MANAGER: [REDACTED] CONTACT PH: SAMPLER MOBILE:
PRIMARY SAMPLER: [REDACTED] QUOTE NO: EB23AFCOMAU0017 / EB2023AECOMAU0017
EMAIL REPORTS TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
002	0874_SW014_240115		15/01/2024 10:50 AM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0874_QC108_240115		15/01/2024 10:50 AM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0874_SW017_240115		15/01/2024 11:03 AM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0874_SW121_240115		15/01/2024 11:19 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
006	0874_SW102_240115		15/01/2024 11:49 AM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0874_SW016_240115		15/01/2024 12:00 PM	WATER	ALS: 2 Non ALS: 0	No	X		
008	0874_SW131_240115		15/01/2024 12:09 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 62359 ALS Laboratory: ET Townsville Environmental

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

7

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
099	0874_SW125_240115		15/01/2024 12:24 PM	WATER	ALS: 2 Non ALS: 0	No	X		
100	0874_SW123_240115		15/01/2024 12:34 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
101	0874_SW010_240115		15/01/2024 01:03 PM	WATER	ALS: 2 Non ALS: 0	No	X		
102	0874_SW132_240115		15/01/2024 01:12 PM	WATER	ALS: 2 Non ALS: 0	No	X		
103	0874_SW117_240115		15/01/2024 01:53 PM	WATER	ALS: 2 Non ALS: 0	No	X		
104	0874_QC109_240115		15/01/2024 01:53 PM	WATER	ALS: 2 Non ALS: 0	No	X		
105	0874_SW118_240115		15/01/2024 02:01 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS: 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: ER23AECOMAU0017 / EB2023AECOMAU0017

Random Sample Temperature on Receipt: C
 Other comments:

EMAIL REPORTS TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
106	0874_SW115_240115		15/01/2024 02:08 PM	WATER	ALS: 2 Non ALS: 0	No	X		
107	0874_SW116_240115		15/01/2024 02:16 PM	WATER	ALS: 2 Non ALS: 0	No	X		
108	0874_SW109_240115		15/01/2024 02:28 PM	WATER	ALS: 2 Non ALS: 0	No	X		
109	0874_SW108_240115		15/01/2024 02:34 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra vol for lab QC
110	0874_QC304_240115		15/01/2024 02:36 PM	WATER	ALS: 2 Non ALS: 0	No	X		
111	0874_QC502_240115		15/01/2024 02:41 PM	WATER	ALS: 2 Non ALS: 0	No	X		
112	0874_QC503_240115		15/01/2024 02:41 PM	WATER	ALS: 2 Non ALS: 0	No	X		

ANZ
FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM		ADDRESS: Teanaru		SAMPLER: [REDACTED]		Destination Laboratory: Eurofins	
PROJECT MANAGER (PM): [REDACTED]		SITE: 0874		MOBILE: [REDACTED]		PHONE: [REDACTED]	
PROJECT NUMBER & TASK CODE: 00612487_2.1				P.O. NO.: 00612487_2.1		EMAIL REPORT TO: [REDACTED]	
RESULTS REQUIRED (Date): 5-day TAT				QUOTE NO.:		ANALYSIS REQUIRED including SURTES (note - suite codes must be listed to attract suite prices)	
FOR LABORATORY USE ONLY		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:				Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for GC or trace LORs etc.	
COOLER SEAL (suite appropriate)		Results in Excel format					
WASH: Yes No NA							
SAMPLE TEMPERATURE							
CHILLED: Yes No							
SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION			
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	PFAS LAB suite
	0874_QC200_240111	W	11/01/2024		2 X P	2	X
	0874_QC201_240111	W	11/01/2024		2 X P	2	X
	0874_QC202_240112	W	12/01/2024		2 X P	2	X
	0874_QC203_240112	W	12/01/2024		2 X P	2	X
	0874_QC204_240113	W	13/01/2024		2 X P	2	X
	0874_QC205_240113	W	13/01/2024		2 X P	2	X
	0874_QC206_240114	W	14/01/2024		2 X P	2	X
	0874_QC207_240114	W	14/01/2024		2 X P	2	X
	0874_QC208_240115	W	15/01/2024		2 X P	2	X
	0874_QC209_240115	W	15/01/2024		2 X P	2	X
	PFAS TRIP BLANK	W			2 X P	2	X
RELEASUED BY:		RECEIVED BY:		RECEIVED BY:		METHOD OF SHIPMENT	
Name: [REDACTED]	Date: 16/01/24	Name: [REDACTED]	Date: 16/01/24	Name: [REDACTED]	Date: [REDACTED]	Con' Note No:	8.3°C
Of: AECOM	Time:	Of: [REDACTED]	Time: 10:20 AM	Of: [REDACTED]	Time:	Transport Co:	
<p>Water Container Codes: F = Unpreserved Plastic; H = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cel Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic;</p> <p>V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bicarbonate Preserved; VSA = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SO₂ = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;</p> <p>F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag</p> <p>Bottle Container Codes: Jar = Unpreserved glass jar</p>							

1059679

RE: Eurofins Sample Receipt Advice - Report 1059679 : Site 0874
(60612487_2.1)



CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi [redacted],

Can we please update the following:

Lab ID	Sample ID	Date
TW24-Ja0016443	0874_QC501_240116	16/01/2024

Kind regards,



Graduate Environmental Scientist



[redacted]@aecom.com

AECOM

Level 5, 7-13 Tomlins Street
PO Box 5423
South Townsville, QLD, 4810, Australia



aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

From: [redacted]

Sent: Wednesday, January 17, 2024 2:00 PM

To: [redacted]

Cc: [redacted]

<[redacted]>

Subject: Eurofins Sample Receipt Advice - Report 1059679 : Site 0874 (60612487_2.1)



Appendix E

Laboratory Analytical Reports



CERTIFICATE OF ANALYSIS

Work Order : **ET2400201**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 1307
 FORTITUDE VALLEY QLD, AUSTRALIA 4006
Telephone : ----
Project : QLD_0874_PFSOMP_24
Order number : 60612487_2.1
C-O-C number : 62359
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 112
No. of samples analysed : 112

Page : 1 of 49
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : +61 7 3552 8616
Date Samples Received : 17-Jan-2024 08:20
Date Analysis Commenced : 19-Jan-2024
Issue Date : 30-Jan-2024 16:53



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 LCS recovery deemed acceptable as all associated analyte results are less than LOR
- EP231X-PFAS: Low LCS and MS recovery deemed acceptable as all associated analyte results are less than LOR
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X-PFAS: Particular samples required dilution due to the presence of high-level contaminants. LOR values have been adjusted accordingly.
- EP231X-PFAS: The LOR values of PFBS and PFOS have been raised for particular samples due to matrix interference.
- EP231X-PFAS: Sample '0874_SW123_240114' (ET2400201-077) required dilution due to the presence of high-level contaminants. LOR values have been adjusted accordingly.
- EP231X-PFAS: The LOR of PFBS and PFOS have been raised in samples '0874_SW112_240115' (ET2400201-091) and '0874_QC108_240115' (ET2400201-093) due to matrix interference.
- EP231X-PFAS: Samples '0874_SW125_240113' (ET2400201-054) and '0874_SW123_240113' (ET2400201-055) required dilution due to the presence of high-level contaminants. LOR values have been adjusted accordingly.
- EP231X-PFAS: The LOR of PFBS have been raised in samples '0874_SW112_240113' (ET2400201-047) due to matrix interference.
- EP231X-PFAS: Whole bottle extraction was not possible for particular samples. Sample required dilution prior to extraction due to high level contaminants. LOR values have been adjusted accordingly.
- EP231X-PFAS: The LOR for PFBS has been raised in samples '0874_SW112_240114' (ET2400201-069) and '0874_SW121_240114' (ET2400201-072) due to matrix interference.
- 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.
- 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	0874_SW127_240111	0874_SW129_240111	0874_SW112_240111	0874_SW014_240111	0874_SW017_240111
Sampling date / time					11-Jan-2024 10:38	11-Jan-2024 10:58	11-Jan-2024 11:57	11-Jan-2024 12:28	11-Jan-2024 12:38
Compound	CAS Number	LOR	Unit	ET2400201-001	ET2400201-002	ET2400201-003	ET2400201-004	ET2400201-005	
				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	0.07	<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	0.05	<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	0.03	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_240111	0874_SW129_240111	0874_SW112_240111	0874_SW014_240111	0874_SW017_240111
Sampling date / time					11-Jan-2024 10:38	11-Jan-2024 10:58	11-Jan-2024 11:57	11-Jan-2024 12:28	11-Jan-2024 12:38
Compound	CAS Number	LOR	Unit	ET2400201-001	ET2400201-002	ET2400201-003	ET2400201-004	ET2400201-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.15	<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	0.12	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.15	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	100	101	106	104	104
13C8-PFOA	----	0.02	%	106	108	110	111	106	106



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240111	0874_QC100_240111	0874_SW016_240111	0874_SW131_240111	0874_SW125_240111
Sampling date / time					11-Jan-2024 13:10	11-Jan-2024 13:11	11-Jan-2024 13:27	11-Jan-2024 13:35	11-Jan-2024 13:51
Compound	CAS Number	LOR	Unit	ET2400201-006	ET2400201-007	ET2400201-008	ET2400201-009	ET2400201-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.03	0.02	0.19	0.95	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	<0.02	0.20	1.12	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.30	0.28	0.23	2.09	8.27	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.05	0.13	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.48	0.48	0.25	1.77	3.48	
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	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.11	0.51	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.06	0.56	3.20	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.05	0.33	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.01	0.08	0.32	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240111	0874_QC100_240111	0874_SW016_240111	0874_SW131_240111	0874_SW125_240111
Sampling date / time				11-Jan-2024 13:10	11-Jan-2024 13:11	11-Jan-2024 13:27	11-Jan-2024 13:35	11-Jan-2024 13:51	
Compound	CAS Number	LOR	Unit	ET2400201-006	ET2400201-007	ET2400201-008	ET2400201-009	ET2400201-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.88	0.85	0.57	5.10	18.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.78	0.76	0.48	3.86	11.8	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.86	0.83	0.57	4.85	17.3	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	103	108	103	99.9	
13C8-PFOA	----	0.02	%	108	109	110	106	108	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_240111	0874_SW010_240111	0874_SW132_240111	0874_SW121_240111	0874_QC101_240111
Sampling date / time					11-Jan-2024 14:03	11-Jan-2024 14:25	11-Jan-2024 14:34	11-Jan-2024 15:07	11-Jan-2024 15:08
Compound	CAS Number	LOR	Unit	ET2400201-011	ET2400201-012	ET2400201-013	ET2400201-014	ET2400201-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.39	0.09	0.12	0.07	0.07	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.31	0.08	0.10	0.05	0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.19	0.87	0.96	0.41	0.44	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.17	0.03	0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.48	2.35	1.58	0.20	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	0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	0.14	0.07	0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.92	0.26	0.32	0.07	0.06	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.15	0.08	0.07	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.19	0.14	0.11	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_240111	0874_SW010_240111	0874_SW132_240111	0874_SW121_240111	0874_QC101_240111
Sampling date / time					11-Jan-2024 14:03	11-Jan-2024 14:25	11-Jan-2024 14:34	11-Jan-2024 15:07	11-Jan-2024 15:08
Compound	CAS Number	LOR	Unit	ET2400201-011	ET2400201-012	ET2400201-013	ET2400201-014	ET2400201-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	12.1	4.06	3.35	0.82	0.83	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.67	3.22	2.54	0.61	0.64	
Sum of PFAS (WA DER List)	----	0.01	µg/L	11.6	3.93	3.23	0.77	0.78	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	104	103	105	103	
13C8-PFOA	----	0.02	%	108	111	111	111	109	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_240111	0874_SW118_240111	0874_SW115_240111	0874_SW116_240111	0874_SW109_240111
Sampling date / time					11-Jan-2024 15:27	11-Jan-2024 15:33	11-Jan-2024 15:49	11-Jan-2024 16:09	11-Jan-2024 16:24
Compound	CAS Number	LOR	Unit	ET2400201-016	ET2400201-017	ET2400201-018	ET2400201-019	ET2400201-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.18	0.06	0.04	0.05	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.08	0.15	0.04	0.03	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.71	1.24	0.44	0.36	0.23	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.03	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.90	1.38	0.46	0.38	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	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.06	0.10	0.03	0.03	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.26	0.46	0.12	0.09	0.07	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.09	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.09	0.14	0.03	0.02	0.02	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_240111	0874_SW118_240111	0874_SW115_240111	0874_SW116_240111	0874_SW109_240111
Sampling date / time					11-Jan-2024 15:27	11-Jan-2024 15:33	11-Jan-2024 15:49	11-Jan-2024 16:09	11-Jan-2024 16:24
Compound	CAS Number	LOR	Unit	ET2400201-016	ET2400201-017	ET2400201-018	ET2400201-019	ET2400201-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.26	3.77	1.18	0.95	0.73	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.61	2.62	0.90	0.74	0.56	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.18	3.59	1.14	0.92	0.70	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	101	103	104	94.4	
13C8-PFOA	----	0.02	%	110	107	107	109	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_240111	0874_QC300_240111	0874_SW127_240112	0874_SW129_240112	0874_SW112_240112
Sampling date / time				11-Jan-2024 16:33	11-Jan-2024 16:36	12-Jan-2024 09:29	12-Jan-2024 09:45	12-Jan-2024 10:31	
Compound	CAS Number	LOR	Unit	ET2400201-021	ET2400201-022	ET2400201-023	ET2400201-024	ET2400201-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	<0.01	<0.01	<0.01	0.16	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	<0.01	<0.01	<0.01	0.11	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	<0.01	<0.01	<0.01	0.16	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.5	101	100	98.9	98.6	
13C8-PFOA	----	0.02	%	104	108	103	107	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_240112	0874_SW017_240112	0874_SW121_240112	0874_SW102_240112	0874_SW016_240112
Sampling date / time					12-Jan-2024 10:50	12-Jan-2024 10:59	12-Jan-2024 11:18	12-Jan-2024 13:16	12-Jan-2024 12:04
Compound	CAS Number	LOR	Unit	ET2400201-026	ET2400201-027	ET2400201-028	ET2400201-029	ET2400201-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.01	1.23	1.02	0.30	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.01	0.88	0.82	0.27	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.01	1.15	0.96	0.30	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.6	101	105	99.1	97.8	
13C8-PFOA	----	0.02	%	106	107	109	109	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_240112	0874_QC102_240112	0874_SW125_240112	0874_SW123_240112	0874_SW010_240112
Sampling date / time					12-Jan-2024 12:14	12-Jan-2024 12:14	12-Jan-2024 12:35	12-Jan-2024 12:45	12-Jan-2024 13:28
Compound	CAS Number	LOR	Unit	ET2400201-031	ET2400201-032	ET2400201-033	ET2400201-034	ET2400201-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.42	0.43	3.65	0.53	0.71	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.37	0.44	3.04	0.36	0.56	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.01	3.19	12.2	2.94	4.45	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.14	0.15	0.44	0.26	0.23	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.42	3.58	6.16	6.22	12.0	
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	0.9	0.2	0.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	0.22	1.54	0.26	1.10	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.11	1.11	9.02	0.90	2.01	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.11	0.09	0.72	0.13	0.68	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.20	0.21	0.54	0.22	0.96	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.16	
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	<0.06	<0.06	<0.06	<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	<0.06	<0.06	<0.06	<0.06	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_240112	0874_QC102_240112	0874_SW125_240112	0874_SW123_240112	0874_SW010_240112
Sampling date / time				12-Jan-2024 12:14	12-Jan-2024 12:14	12-Jan-2024 12:35	12-Jan-2024 12:45	12-Jan-2024 13:28	
Compound	CAS Number	LOR	Unit	ET2400201-031	ET2400201-032	ET2400201-033	ET2400201-034	ET2400201-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	<0.06	<0.06	<0.06	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	<0.06	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	<0.06	<0.06	<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	<0.05	<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	0.06	
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	9.11	9.52	38.2	12.0	23.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.43	6.77	18.4	9.16	16.4	
Sum of PFAS (WA DER List)	----	0.01	µg/L	8.60	8.93	34.7	11.4	22.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.8	99.3	93.5	96.2	93.5	
13C8-PFOA	----	0.02	%	106	108	109	106	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_240112	0874_SW117_240112	0874_QC103_240112	0874_SW118_240112	0874_SW115_240112
Sampling date / time					12-Jan-2024 13:40	12-Jan-2024 13:56	12-Jan-2024 13:56	12-Jan-2024 14:05	12-Jan-2024 14:23
Compound	CAS Number	LOR	Unit		ET2400201-036	ET2400201-037	ET2400201-038	ET2400201-039	ET2400201-040
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		1.02	1.20	1.07	0.33	0.10
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		0.88	1.08	1.01	0.32	0.07
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		5.47	6.13	6.05	1.78	0.60
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		0.30	0.31	0.28	0.09	0.04
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		8.61	8.67	8.26	2.02	1.18
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	0.4	0.4	0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		0.54	0.55	0.55	0.16	0.04
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		2.67	2.94	2.87	0.78	0.16
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		0.50	0.55	0.53	0.14	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		0.94	1.10	1.04	0.29	0.04
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	<0.06	<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		<0.06	<0.06	<0.06	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_240112	0874_SW117_240112	0874_QC103_240112	0874_SW118_240112	0874_SW115_240112
Sampling date / time					12-Jan-2024 13:40	12-Jan-2024 13:56	12-Jan-2024 13:56	12-Jan-2024 14:05	12-Jan-2024 14:23
Compound	CAS Number	LOR	Unit	ET2400201-036	ET2400201-037	ET2400201-038	ET2400201-039	ET2400201-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	<0.06	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	<0.06	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	<0.06	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	21.2	22.9	22.1	6.01	2.23	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	14.1	14.8	14.3	3.80	1.78	
Sum of PFAS (WA DER List)	----	0.01	µg/L	20.0	21.5	20.8	5.60	2.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.2	98.8	97.3	97.3	101	
13C8-PFOA	----	0.02	%	107	105	102	106	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_240112	0874_SW109_240112	0874_SW108_240112	0874_QC301_240112	0874_SW127_240113
Sampling date / time					12-Jan-2024 14:36	12-Jan-2024 14:59	12-Jan-2024 15:06	12-Jan-2024 15:07	13-Jan-2024 09:25
Compound	CAS Number	LOR	Unit	ET2400201-041	ET2400201-042	ET2400201-043	ET2400201-044	ET2400201-045	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.09	0.05	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.04	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.58	0.35	0.09	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.95	0.52	0.10	<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	0.15	0.09	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	0.04	0.02	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_240112	0874_SW109_240112	0874_SW108_240112	0874_QC301_240112	0874_SW127_240113
Sampling date / time					12-Jan-2024 14:36	12-Jan-2024 14:59	12-Jan-2024 15:06	12-Jan-2024 15:07	13-Jan-2024 09:25
Compound	CAS Number	LOR	Unit	ET2400201-041	ET2400201-042	ET2400201-043	ET2400201-044	ET2400201-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.94	1.07	0.21	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.53	0.87	0.19	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.85	1.03	0.21	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.0	97.9	98.9	96.6	96.8	
13C8-PFOA	----	0.02	%	103	104	102	99.3	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_240113	0874_SW112_240113	0874_SW014_240113	0874_SW017_240113	0874_SW121_240113
Sampling date / time					13-Jan-2024 09:38	13-Jan-2024 10:22	13-Jan-2024 10:39	13-Jan-2024 10:49	13-Jan-2024 11:09
Compound	CAS Number	LOR	Unit	ET2400201-046	ET2400201-047	ET2400201-048	ET2400201-049	ET2400201-050	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<0.02	0.11
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	0.08
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.09	<0.01	0.01	0.60	
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	0.15	0.01	0.02	0.35	
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	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.04	<0.02	<0.02	0.12	
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	0.02	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_240113	0874_SW112_240113	0874_SW014_240113	0874_SW017_240113	0874_SW121_240113
Sampling date / time					13-Jan-2024 09:38	13-Jan-2024 10:22	13-Jan-2024 10:39	13-Jan-2024 10:49	13-Jan-2024 11:09
Compound	CAS Number	LOR	Unit	ET2400201-046	ET2400201-047	ET2400201-048	ET2400201-049	ET2400201-050	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.31	0.01	0.03	1.34	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.24	0.01	0.03	0.95	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.31	0.01	0.03	1.24	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.8	96.9	92.6	97.7	96.9	
13C8-PFOA	----	0.02	%	104	102	104	104	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240113	0874_SW016_240113	0874_SW131_240113	0874_SW125_240113	0874_SW123_240113
Sampling date / time					13-Jan-2024 11:51	13-Jan-2024 12:02	13-Jan-2024 12:12	13-Jan-2024 12:33	13-Jan-2024 12:46
Compound	CAS Number	LOR	Unit	ET2400201-051	ET2400201-052	ET2400201-053	ET2400201-054	ET2400201-055	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	<0.02	0.21	3.05	0.76	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	<0.02	0.21	2.77	0.64	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.38	0.19	1.60	20.5	4.74	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	0.09	1.13	0.44	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.48	0.39	2.84	30.8	9.78	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.7	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.12	1.26	0.41	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.06	0.04	0.54	6.71	1.41	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.05	0.57	0.23	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.10	0.91	0.38	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240113	0874_SW016_240113	0874_SW131_240113	0874_SW125_240113	0874_SW123_240113
Sampling date / time				13-Jan-2024 11:51	13-Jan-2024 12:02	13-Jan-2024 12:12	13-Jan-2024 12:33	13-Jan-2024 12:46	
Compound	CAS Number	LOR	Unit	ET2400201-051	ET2400201-052	ET2400201-053	ET2400201-054	ET2400201-055	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.06	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<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	<0.10	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.06	0.64	5.76	68.4	19.0	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.86	0.58	4.44	51.3	14.5	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.00	0.64	5.46	64.5	17.9	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.4	101	102	94.9	94.6	
13C8-PFOA	----	0.02	%	106	108	107	102	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_240113	0874_QC104_240113	0874_SW132_240113	0874_SW117_240113	0874_SW118_240113
Sampling date / time					13-Jan-2024 13:04	13-Jan-2024 13:05	13-Jan-2024 13:14	13-Jan-2024 13:27	13-Jan-2024 13:35
Compound	CAS Number	LOR	Unit	ET2400201-056	ET2400201-057	ET2400201-058	ET2400201-059	ET2400201-060	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.21	0.20	2.02	1.50	0.80	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.16	0.17	1.99	1.38	0.80	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.24	1.27	12.6	8.78	5.03	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.08	0.69	0.46	0.26	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.14	3.21	15.5	9.41	6.46	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.6	0.4	0.3	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.20	0.20	1.04	0.73	0.41	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.49	0.51	4.88	3.59	2.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.13	0.14	0.91	0.64	0.37	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.26	0.26	1.91	1.28	0.75	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.03	0.02	<0.05	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_240113	0874_QC104_240113	0874_SW132_240113	0874_SW117_240113	0874_SW118_240113
Sampling date / time					13-Jan-2024 13:04	13-Jan-2024 13:05	13-Jan-2024 13:14	13-Jan-2024 13:27	13-Jan-2024 13:35
Compound	CAS Number	LOR	Unit	ET2400201-056	ET2400201-057	ET2400201-058	ET2400201-059	ET2400201-060	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.05	<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	0.07	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	6.11	6.23	42.1	28.2	17.2	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.38	4.48	28.1	18.2	11.5	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.84	5.96	39.5	26.3	16.2	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.2	95.4	92.3	95.7	94.4	
13C8-PFOA	----	0.02	%	104	102	102	102	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_240113	0874_QC105_240113	0874_SW116_240113	0874_SW109_240113	0874_QC302_240113
Sampling date / time					13-Jan-2024 13:48	13-Jan-2024 13:49	13-Jan-2024 13:59	13-Jan-2024 14:13	13-Jan-2024 14:15
Compound	CAS Number	LOR	Unit	ET2400201-061	ET2400201-062	ET2400201-063	ET2400201-064	ET2400201-065	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	5.51	5.39	1.23	0.65	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.08	3.95	0.92	0.50	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.15	5.05	1.16	0.62	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.7	93.0	100	92.0	100	
13C8-PFOA	----	0.02	%	98.4	100	95.3	98.0	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_240113	0874_SW127_240114	0874_SW129_240114	0874_SW112_240114	0874_SW014_240114
Sampling date / time					13-Jan-2024 14:22	14-Jan-2024 09:01	14-Jan-2024 09:17	14-Jan-2024 10:19	14-Jan-2024 10:20
Compound	CAS Number	LOR	Unit	ET2400201-066	ET2400201-067	ET2400201-068	ET2400201-069	ET2400201-070	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.37	0.02	<0.01	0.29	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.34	0.02	<0.01	0.24	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.37	0.02	<0.01	0.29	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.8	93.3	97.0	93.0	99.6	
13C8-PFOA	----	0.02	%	99.5	95.9	97.1	99.0	96.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_240114	0874_SW121_240114	0874_SW102_240114	0874_SW016_240114	0874_SW131_240114
Sampling date / time					14-Jan-2024 10:26	14-Jan-2024 10:49	14-Jan-2024 10:53	14-Jan-2024 11:32	14-Jan-2024 11:39
Compound	CAS Number	LOR	Unit	ET2400201-071	ET2400201-072	ET2400201-073	ET2400201-074	ET2400201-075	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.04	0.06	<0.02	0.21	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	0.06	<0.02	0.20	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.18	0.57	0.06	1.67	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.03	<0.02	0.09	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.18	0.72	0.17	2.72	
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	0.10	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.02	0.08	<0.02	0.44	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.02	<0.01	0.08	
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	<0.06	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_240114	0874_SW121_240114	0874_SW102_240114	0874_SW016_240114	0874_SW131_240114
Sampling date / time					14-Jan-2024 10:26	14-Jan-2024 10:49	14-Jan-2024 10:53	14-Jan-2024 11:32	14-Jan-2024 11:39
Compound	CAS Number	LOR	Unit	ET2400201-071	ET2400201-072	ET2400201-073	ET2400201-074	ET2400201-075	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.06
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<0.05	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	0.40	1.54	0.23	5.55	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.36	1.29	0.23	4.39	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.38	1.45	0.23	5.26	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.2	102	95.6	98.3	96.4	
13C8-PFOA	----	0.02	%	97.8	96.9	93.5	98.3	99.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW125_240114	0874_SW123_240114	0874_QC106_240114	0874_SW010_240114	0874_SW132_240114
Sampling date / time					14-Jan-2024 11:55	14-Jan-2024 12:07	14-Jan-2024 10:21	14-Jan-2024 12:19	14-Jan-2024 12:28
Compound	CAS Number	LOR	Unit		ET2400201-076	ET2400201-077	ET2400201-078	ET2400201-079	ET2400201-080
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		2.29	0.72	<0.02	<0.02	0.03
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		2.05	0.59	<0.02	<0.02	0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		13.6	5.16	<0.01	0.15	0.26
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		0.65	0.39	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		19.2	10.1	<0.01	0.70	0.66
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.08	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.4	0.4	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		0.84	0.52	<0.02	<0.02	0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		4.40	1.53	<0.02	0.03	0.10
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		0.32	0.50	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		0.49	0.53	<0.01	0.02	0.04
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.08	0.06	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.08	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.08	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.08	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.08	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.21	<0.06	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.08	0.05	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.21	<0.06	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW125_240114	0874_SW123_240114	0874_QC106_240114	0874_SW010_240114	0874_SW132_240114
Sampling date / time					14-Jan-2024 11:55	14-Jan-2024 12:07	14-Jan-2024 10:21	14-Jan-2024 12:19	14-Jan-2024 12:28
Compound	CAS Number	LOR	Unit	ET2400201-076	ET2400201-077	ET2400201-078	ET2400201-079	ET2400201-080	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.21	<0.06	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.21	<0.06	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.21	<0.06	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.08	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.08	<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	<0.08	<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	<0.08	<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	<0.08	0.22	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.08	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	43.8	20.8	<0.01	0.90	1.13	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	32.8	15.3	<0.01	0.85	0.92	
Sum of PFAS (WA DER List)	----	0.01	µg/L	41.1	19.7	<0.01	0.90	1.11	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.0	101	105	115	110	
13C8-PFOA	----	0.02	%	101	111	114	112	114	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_240114	0874_SW118_240114	0874_SW115_240114	0874_SW116_240114	0874_SW109_240114
Sampling date / time				14-Jan-2024 13:14	14-Jan-2024 13:32	14-Jan-2024 13:33	14-Jan-2024 13:43	14-Jan-2024 13:51	
Compound	CAS Number	LOR	Unit	ET2400201-081	ET2400201-082	ET2400201-083	ET2400201-084	ET2400201-085	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.09	0.65	0.08	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.08	0.47	0.06	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.30	0.67	3.47	0.49	0.06	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	0.17	0.03	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.67	1.38	3.94	0.66	0.07	
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	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.05	0.31	0.03	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.13	0.24	1.46	0.16	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.04	0.25	0.03	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.11	0.56	0.06	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_240114	0874_SW118_240114	0874_SW115_240114	0874_SW116_240114	0874_SW109_240114
Sampling date / time				14-Jan-2024 13:14	14-Jan-2024 13:32	14-Jan-2024 13:33	14-Jan-2024 13:43	14-Jan-2024 13:51	
Compound	CAS Number	LOR	Unit	ET2400201-081	ET2400201-082	ET2400201-083	ET2400201-084	ET2400201-085	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	1.27	2.70	11.5	1.60	0.13	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.97	2.05	7.41	1.15	0.13	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.24	2.58	10.8	1.51	0.13	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	109	99.7	109	116	
13C8-PFOA	----	0.02	%	113	113	113	112	111	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_240114	0874_QC107_240114	0874_QC303_240114	0874_SW127_240115	0874_SW129_240115
Sampling date / time					14-Jan-2024 13:58	14-Jan-2024 13:32	14-Jan-2024 14:01	15-Jan-2024 09:41	15-Jan-2024 09:59
Compound	CAS Number	LOR	Unit	ET2400201-086	ET2400201-087	ET2400201-088	ET2400201-089	ET2400201-090	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.09	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.08	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.48	0.68	<0.01	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.04	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.81	1.42	<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	0.05	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.23	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.04	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.11	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_240114	0874_QC107_240114	0874_QC303_240114	0874_SW127_240115	0874_SW129_240115
Sampling date / time				14-Jan-2024 13:58	14-Jan-2024 13:32	14-Jan-2024 14:01	15-Jan-2024 09:41	15-Jan-2024 09:59	
Compound	CAS Number	LOR	Unit	ET2400201-086	ET2400201-087	ET2400201-088	ET2400201-089	ET2400201-090	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	1.49	2.74	<0.01	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.29	2.10	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.44	2.62	<0.01	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	117	112	114	114	
13C8-PFOA	----	0.02	%	113	115	114	114	114	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_240115	0874_SW014_240115	0874_QC108_240115	0874_SW017_240115	0874_SW121_240115
Sampling date / time					15-Jan-2024 10:33	15-Jan-2024 10:50	15-Jan-2024 10:50	15-Jan-2024 11:03	15-Jan-2024 11:19
Compound	CAS Number	LOR	Unit	ET2400201-091	ET2400201-092	ET2400201-093	ET2400201-094	ET2400201-095	ET2400201-095
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.24	0.01	<0.01	<0.01	<0.01	0.82
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.20	0.01	<0.01	<0.01	<0.01	0.60
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.24	0.01	<0.01	<0.01	<0.01	0.78
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	109	111	112	120	120	120
13C8-PFOA	----	0.02	%	114	116	116	116	116	116



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240115	0874_SW016_240115	0874_SW131_240115	0874_SW125_240115	0874_SW123_240115
Sampling date / time					15-Jan-2024 11:49	15-Jan-2024 12:00	15-Jan-2024 12:09	15-Jan-2024 12:24	15-Jan-2024 12:34
Compound	CAS Number	LOR	Unit	ET2400201-096	ET2400201-097	ET2400201-098	ET2400201-099	ET2400201-100	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	<0.02	0.28	1.98	0.45	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	<0.02	0.16	1.72	0.30	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.49	0.35	1.52	11.8	2.78	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.03	0.09	0.46	0.28	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.95	0.56	3.12	9.36	9.10	
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	<0.1	0.6	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.13	0.97	0.21	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.03	0.56	5.31	0.81	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.05	0.52	0.14	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.04	0.10	0.73	0.23	
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	<0.06	<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	<0.06	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240115	0874_SW016_240115	0874_SW131_240115	0874_SW125_240115	0874_SW123_240115
Sampling date / time				15-Jan-2024 11:49	15-Jan-2024 12:00	15-Jan-2024 12:09	15-Jan-2024 12:24	15-Jan-2024 12:34	
Compound	CAS Number	LOR	Unit	ET2400201-096	ET2400201-097	ET2400201-098	ET2400201-099	ET2400201-100	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<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	<0.05	<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	0.08	
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	1.70	1.01	6.01	33.4	14.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.44	0.91	4.64	21.2	11.9	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.63	0.98	5.76	31.3	13.9	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	115	120	105	115	112	
13C8-PFOA	----	0.02	%	105	105	108	105	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_240115	0874_SW132_240115	0874_SW117_240115	0874_QC109_240115	0874_SW118_240115
Sampling date / time					15-Jan-2024 13:03	15-Jan-2024 13:12	15-Jan-2024 13:53	15-Jan-2024 13:53	15-Jan-2024 14:01
Compound	CAS Number	LOR	Unit	ET2400201-101	ET2400201-102	ET2400201-103	ET2400201-104	ET2400201-105	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.15	0.22	0.16	0.16	0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.09	0.13	0.10	0.10	0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.86	1.12	0.80	0.79	0.37	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.07	0.04	0.04	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.76	2.33	1.29	1.25	0.60	
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	0.15	0.13	0.09	0.09	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.29	0.46	0.38	0.37	0.16	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.08	0.06	0.06	0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.13	0.15	0.12	0.12	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	<0.05	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_240115	0874_SW132_240115	0874_SW117_240115	0874_QC109_240115	0874_SW118_240115
Sampling date / time					15-Jan-2024 13:03	15-Jan-2024 13:12	15-Jan-2024 13:53	15-Jan-2024 13:53	15-Jan-2024 14:01
Compound	CAS Number	LOR	Unit	ET2400201-101	ET2400201-102	ET2400201-103	ET2400201-104	ET2400201-105	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.55	4.69	3.04	2.98	1.37	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.62	3.45	2.09	2.04	0.97	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.41	4.49	2.90	2.84	1.32	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	115	110	119	124	105	
13C8-PFOA	----	0.02	%	103	104	99.9	104	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_240115	0874_SW116_240115	0874_SW109_240115	0874_SW108_240115	0874_QC304_240115
Sampling date / time					15-Jan-2024 14:08	15-Jan-2024 14:16	15-Jan-2024 14:28	15-Jan-2024 14:34	15-Jan-2024 14:36
Compound	CAS Number	LOR	Unit		ET2400201-106	ET2400201-107	ET2400201-108	ET2400201-109	ET2400201-110
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		0.10	<0.04	<0.04	<0.06	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		0.06	0.02	<0.02	0.03	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		0.52	0.20	0.16	0.44	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		0.03	<0.02	<0.02	0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		0.90	0.36	0.31	0.92	<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	0.03	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		0.18	0.07	0.05	0.07	<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		0.05	0.02	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



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_240115	0874_SW116_240115	0874_SW109_240115	0874_SW108_240115	0874_QC304_240115
Sampling date / time				15-Jan-2024 14:08	15-Jan-2024 14:16	15-Jan-2024 14:28	15-Jan-2024 14:34	15-Jan-2024 14:36	
Compound	CAS Number	LOR	Unit	ET2400201-106	ET2400201-107	ET2400201-108	ET2400201-109	ET2400201-110	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	1.90	0.67	0.53	1.53	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.42	0.56	0.47	1.36	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.81	0.65	0.53	1.48	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	117	118	118	126	115	
13C8-PFOA	----	0.02	%	105	107	103	105	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC502_240115	0874_QC503_240115	----	----	----
Sampling date / time				15-Jan-2024 14:41	15-Jan-2024 14:41	----	----	----	
Compound	CAS Number	LOR	Unit	ET2400201-111	ET2400201-112	-----	-----	-----	
				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	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC502_240115	0874_QC503_240115	----	----	----
Sampling date / time				15-Jan-2024 14:41	15-Jan-2024 14:41	----	----	----	
Compound	CAS Number	LOR	Unit	ET2400201-111	ET2400201-112	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	
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	107	----	----	----	
13C8-PFOA	----	0.02	%	104	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

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2400201	Page	: 1 of 14
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 17-Jan-2024
Site	: QLD_0874	Issue Date	: 30-Jan-2024
Sampler	: [REDACTED]	No. of samples received	: 112
Order number	: 60612487_2.1	No. of samples analysed	: 112

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

- **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							
EP231A: Perfluoroalkyl Sulfonic Acids	QC-5553065-002	----	Perfluorodecane sulfonic acid (PFDS)	335-77-3	145 %	53.0-142%	Recovery greater than upper control limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-5553064-002	----	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	61.0 %	64.2-133%	Recovery less than lower control limit
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2400201--083	0874_SW115_240114	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	ET2400201--083	0874_SW115_240114	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	ET2400201--066	0874_SW108_240113	Perfluorotridecanoic acid (PFTrDA)	72629-94-8	55.0 %	65.0-144%	Recovery less than lower data quality objective
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2400201--066	0874_SW108_240113	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	54.2 %	70.0-130%	Recovery less than lower 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



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								
0874_SW127_240114, 0874_SW112_240114, 0874_SW017_240114, 0874_SW102_240114, 0874_SW131_240114,	0874_SW129_240114, 0874_SW014_240114, 0874_SW121_240114, 0874_SW016_240114, 0874_SW125_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	22-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW123_240114, 0874_SW010_240114, 0874_SW117_240114, 0874_SW115_240114, 0874_SW109_240114, 0874_QC107_240114,	0874_QC106_240114, 0874_SW132_240114, 0874_SW118_240114, 0874_SW116_240114, 0874_SW108_240114, 0874_QC303_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	28-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW127_240115, 0874_SW112_240115, 0874_QC108_240115, 0874_SW121_240115	0874_SW129_240115, 0874_SW014_240115, 0874_SW017_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	28-Jan-2024	13-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240115, 0874_SW131_240115, 0874_SW123_240115, 0874_SW132_240115, 0874_QC109_240115, 0874_SW115_240115, 0874_SW109_240115, 0874_QC304_240115, 0874_QC503_240115	0874_SW016_240115, 0874_SW125_240115, 0874_SW010_240115, 0874_SW117_240115, 0874_SW118_240115, 0874_SW116_240115, 0874_SW108_240115, 0874_QC502_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	29-Jan-2024	13-Jul-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 - Continued								
0874_SW127_240114, 0874_SW112_240114, 0874_SW017_240114, 0874_SW102_240114, 0874_SW131_240114,	0874_SW129_240114, 0874_SW014_240114, 0874_SW121_240114, 0874_SW016_240114, 0874_SW125_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	22-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW123_240114, 0874_SW010_240114, 0874_SW117_240114, 0874_SW115_240114, 0874_SW109_240114, 0874_QC107_240114,	0874_QC106_240114, 0874_SW132_240114, 0874_SW118_240114, 0874_SW116_240114, 0874_SW108_240114, 0874_QC303_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	28-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW127_240115, 0874_SW112_240115, 0874_QC108_240115, 0874_SW121_240115	0874_SW129_240115, 0874_SW014_240115, 0874_SW017_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	28-Jan-2024	13-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240115, 0874_SW131_240115, 0874_SW123_240115, 0874_SW132_240115, 0874_QC109_240115, 0874_SW115_240115, 0874_SW109_240115, 0874_QC304_240115, 0874_QC503_240115	0874_SW016_240115, 0874_SW125_240115, 0874_SW010_240115, 0874_SW117_240115, 0874_SW118_240115, 0874_SW116_240115, 0874_SW108_240115, 0874_QC502_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	29-Jan-2024	13-Jul-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 - Continued								
0874_SW127_240114, 0874_SW112_240114, 0874_SW017_240114, 0874_SW102_240114, 0874_SW131_240114,	0874_SW129_240114, 0874_SW014_240114, 0874_SW121_240114, 0874_SW016_240114, 0874_SW125_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	22-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW123_240114, 0874_SW010_240114, 0874_SW117_240114, 0874_SW115_240114, 0874_SW109_240114, 0874_QC107_240114,	0874_QC106_240114, 0874_SW132_240114, 0874_SW118_240114, 0874_SW116_240114, 0874_SW108_240114, 0874_QC303_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	28-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW127_240115, 0874_SW112_240115, 0874_QC108_240115, 0874_SW121_240115	0874_SW129_240115, 0874_SW014_240115, 0874_SW017_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	28-Jan-2024	13-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240115, 0874_SW131_240115, 0874_SW123_240115, 0874_SW132_240115, 0874_QC109_240115, 0874_SW115_240115, 0874_SW109_240115, 0874_QC304_240115, 0874_QC503_240115	0874_SW016_240115, 0874_SW125_240115, 0874_SW010_240115, 0874_SW117_240115, 0874_SW118_240115, 0874_SW116_240115, 0874_SW108_240115, 0874_QC502_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	29-Jan-2024	13-Jul-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 - Continued								
0874_SW127_240114, 0874_SW112_240114, 0874_SW017_240114, 0874_SW102_240114, 0874_SW131_240114,	0874_SW129_240114, 0874_SW014_240114, 0874_SW121_240114, 0874_SW016_240114, 0874_SW125_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	22-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW123_240114, 0874_SW010_240114, 0874_SW117_240114, 0874_SW115_240114, 0874_SW109_240114, 0874_QC107_240114,	0874_QC106_240114, 0874_SW132_240114, 0874_SW118_240114, 0874_SW116_240114, 0874_SW108_240114, 0874_QC303_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	28-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW127_240115, 0874_SW112_240115, 0874_QC108_240115, 0874_SW121_240115	0874_SW129_240115, 0874_SW014_240115, 0874_SW017_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	28-Jan-2024	13-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240115, 0874_SW131_240115, 0874_SW123_240115, 0874_SW132_240115, 0874_QC109_240115, 0874_SW115_240115, 0874_SW109_240115, 0874_QC304_240115, 0874_QC503_240115	0874_SW016_240115, 0874_SW125_240115, 0874_SW010_240115, 0874_SW117_240115, 0874_SW118_240115, 0874_SW116_240115, 0874_SW108_240115, 0874_QC502_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	29-Jan-2024	13-Jul-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 - Continued								
0874_SW127_240114, 0874_SW112_240114, 0874_SW017_240114, 0874_SW102_240114, 0874_SW131_240114,	0874_SW129_240114, 0874_SW014_240114, 0874_SW121_240114, 0874_SW016_240114, 0874_SW125_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	22-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X)								
0874_SW123_240114, 0874_SW010_240114, 0874_SW117_240114, 0874_SW115_240114, 0874_SW109_240114, 0874_QC107_240114,	0874_QC106_240114, 0874_SW132_240114, 0874_SW118_240114, 0874_SW116_240114, 0874_SW108_240114, 0874_QC303_240114	14-Jan-2024	22-Jan-2024	12-Jul-2024	✓	28-Jan-2024	12-Jul-2024	✓
HDPE (no PTFE) (EP231X)								
0874_SW127_240115, 0874_SW112_240115, 0874_QC108_240115, 0874_SW121_240115	0874_SW129_240115, 0874_SW014_240115, 0874_SW017_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	28-Jan-2024	13-Jul-2024	✓
HDPE (no PTFE) (EP231X)								
0874_SW102_240115, 0874_SW131_240115, 0874_SW123_240115, 0874_SW132_240115, 0874_QC109_240115, 0874_SW115_240115, 0874_SW109_240115, 0874_QC304_240115, 0874_QC503_240115	0874_SW016_240115, 0874_SW125_240115, 0874_SW010_240115, 0874_SW117_240115, 0874_SW118_240115, 0874_SW116_240115, 0874_SW108_240115, 0874_QC502_240115,	15-Jan-2024	22-Jan-2024	13-Jul-2024	✓	29-Jan-2024	13-Jul-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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	12	112	10.71	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	112	5.36	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	112	5.36	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	112	5.36	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.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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.



QUALITY CONTROL REPORT

Work Order	: ET2400201	Page	: 1 of 30
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 1307 FORTITUDE VALLEY QLD, AUSTRALIA 4006	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: +61 7 3552 8616
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 17-Jan-2024
Order number	: 60612487_2.1	Date Analysis Commenced	: 19-Jan-2024
C-O-C number	: 62359	Issue Date	: 30-Jan-2024
Sampler	: [REDACTED] [REDACTED] [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 112		
No. of samples analysed	: 112		



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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5553049)									
ET2400201-001	0874_SW127_240111	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
ET2400201-010	0874_SW125_240111	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	8.27	7.24	13.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.48	3.62	3.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.95	0.97	2.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.12	0.97	14.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.13	0.13	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: 5553056)									
ET2400201-023	0874_SW127_240112	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
ET2400201-030	0874_SW016_240112	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.19	0.20	5.9	0% - 50%



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: 5553056) - continued									
ET2400201-030	0874_SW016_240112	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: 5553063)									
ET2400201-041	0874_SW116_240112	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.58	0.56	2.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.95	1.01	5.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.09	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.07	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2400201-050	0874_SW121_240113	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.60	0.59	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.35	0.37	6.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.12	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.08	0.08	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: 5553064)									
ET2400201-061	0874_SW115_240113	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.88	1.76	6.6	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.20	2.16	2.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.25	0.25	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.26	0.24	9.8	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.10	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	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
ET2400201-069	0874_SW112_240114	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.12	0.11	9.5	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	0.12	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02 (0.08)*	µg/L	<0.08	<0.08	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
		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: 5553065)									
ET2400201-079	0874_SW010_240114	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.16	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.70	0.68	3.4	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



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: 5553065) - continued									
ET2400201-086	0874_SW108_240114	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.48	0.48	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.81	0.80	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.05	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	0.03	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: 5553066)									
ET2400201-100	0874_SW123_240115	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01 (0.02)*	µg/L	2.78	2.76	0.8	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (0.02)*	µg/L	9.10	8.70	4.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.45	0.41	9.8	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.30	0.31	5.3	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.28	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
ET2400201-109	0874_SW108_240115	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.44	0.43	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.92	0.88	3.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02 (0.06)*	µg/L	<0.06	<0.06	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: 5553049)									
ET2400201-001	0874_SW127_240111	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
		ET2400201-010	0874_SW125_240111	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.32	0.30
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	0.51	0.54	5.1	0% - 20%
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	3.20	3.34	4.1	0% - 20%
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.33	0.33	0.0	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



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: 5553049) - continued									
ET2400201-010	0874_SW125_240111	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	0.2	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5553056)									
ET2400201-023	0874_SW127_240112	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
ET2400201-030	0874_SW016_240112	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	0.03	0.03	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: 5553063)									
ET2400201-041	0874_SW116_240112	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.15	0.15	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



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: 5553063) - continued									
ET2400201-041	0874_SW116_240112	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
ET2400201-050	0874_SW121_240113	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	0.12	0.11	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: 5553064)							
ET2400201-061	0874_SW115_240113	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	0.10	0.10	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.51	0.50	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.07	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
		ET2400201-069	0874_SW112_240114	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01
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	0.04	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	<0.02	<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: 5553065)									
ET2400201-079	0874_SW010_240114	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	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	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	<0.02	<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
ET2400201-086	0874_SW108_240114	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	<0.02	<0.02	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: 5553066)									
ET2400201-100	0874_SW123_240115	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01 (0.02)*	µg/L	0.23	0.24	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.21	0.21	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.81	0.81	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.14	0.13	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 (0.06)*	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit
ET2400201-109	0874_SW108_240115	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	0.03	0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.07	0.07	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: 5553066) - continued									
ET2400201-109	0874_SW108_240115	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: 5553049)									
ET2400201-001	0874_SW127_240111	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
ET2400201-010	0874_SW125_240111	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: 5553056)									
ET2400201-023	0874_SW127_240112	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: 5553056) - continued									
ET2400201-023	0874_SW127_240112	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
ET2400201-030	0874_SW016_240112	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: 5553063)									
ET2400201-041	0874_SW116_240112	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
ET2400201-050	0874_SW121_240113	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: 5553063) - continued									
ET2400201-050	0874_SW121_240113	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: 5553064)									
ET2400201-061	0874_SW115_240113	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
ET2400201-069	0874_SW112_240114	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: 5553065)									
ET2400201-079	0874_SW010_240114	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: 5553065) - continued									
ET2400201-079	0874_SW010_240114	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
ET2400201-086	0874_SW108_240114	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: 5553066)									
ET2400201-100	0874_SW123_240115	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 (0.06)*	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05 (0.06)*	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05 (0.06)*	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05 (0.06)*	µg/L	<0.06	<0.06	0.0	No Limit
ET2400201-109	0874_SW108_240115	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: 5553066) - continued									
ET2400201-109	0874_SW108_240115	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: 5553049)									
ET2400201-001	0874_SW127_240111	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
ET2400201-010	0874_SW125_240111	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: 5553056)									
ET2400201-023	0874_SW127_240112	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
ET2400201-030	0874_SW016_240112	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



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: 5553056) - continued									
ET2400201-030	0874_SW016_240112	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: 5553063)									
ET2400201-041	0874_SW116_240112	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
ET2400201-050	0874_SW121_240113	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: 5553064)									
ET2400201-061	0874_SW115_240113	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
ET2400201-069	0874_SW112_240114	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: 5553065)									
ET2400201-079	0874_SW010_240114	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



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: 5553065) - continued									
ET2400201-079	0874_SW010_240114	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
ET2400201-086	0874_SW108_240114	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: 5553066)									
ET2400201-100	0874_SW123_240115	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	0.08	0.07	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
ET2400201-109	0874_SW108_240115	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: 5553049)									
ET2400201-001	0874_SW127_240111	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
ET2400201-010	0874_SW125_240111	EP231X: Sum of PFAS	----	0.01	µg/L	18.5	17.6	4.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.8	10.9	7.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	17.3	16.5	4.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 5553056)									
ET2400201-023	0874_SW127_240112	EP231X: Sum of PFAS	----	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 (%)
EP231P: PFAS Sums (QC Lot: 5553056) - continued									
ET2400201-023	0874_SW127_240112	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
ET2400201-030	0874_SW016_240112	EP231X: Sum of PFAS	----	0.01	µg/L	0.30	0.31	3.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.27	0.28	3.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.30	0.31	3.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 5553063)									
ET2400201-041	0874_SW116_240112	EP231X: Sum of PFAS	----	0.01	µg/L	1.94	1.97	1.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.53	1.57	2.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.85	1.87	1.1	0% - 20%
ET2400201-050	0874_SW121_240113	EP231X: Sum of PFAS	----	0.01	µg/L	1.34	1.33	0.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.95	0.96	1.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.24	1.25	0.8	0% - 20%
EP231P: PFAS Sums (QC Lot: 5553064)									
ET2400201-061	0874_SW115_240113	EP231X: Sum of PFAS	----	0.01	µg/L	5.51	5.32	3.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.08	3.92	4.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	5.15	4.98	3.4	0% - 20%
ET2400201-069	0874_SW112_240114	EP231X: Sum of PFAS	----	0.01	µg/L	0.29	0.28	3.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.24	0.23	4.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.29	0.28	3.5	0% - 20%
EP231P: PFAS Sums (QC Lot: 5553065)									
ET2400201-079	0874_SW010_240114	EP231X: Sum of PFAS	----	0.01	µg/L	0.90	0.90	0.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.85	0.84	1.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.90	0.90	0.0	0% - 20%
ET2400201-086	0874_SW108_240114	EP231X: Sum of PFAS	----	0.01	µg/L	1.49	1.49	0.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.29	1.28	0.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.44	1.43	0.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 5553066)									
ET2400201-100	0874_SW123_240115	EP231X: Sum of PFAS	----	0.01 (0.02)*	µg/L	14.5	14.0	3.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (0.02)*	µg/L	11.9	11.5	3.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01 (0.02)*	µg/L	13.9	13.4	3.4	0% - 20%

Page : 16 of 30
 Work Order : ET2400201
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_24



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 (%)
EP231P: PFAS Sums (QC Lot: 5553066) - continued									
ET2400201-109	0874_SW108_240115	EP231X: Sum of PFAS	----	0.01	µg/L	1.53	1.47	4.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.36	1.31	3.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.48	1.42	4.1	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553049)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	83.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	85.1	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	88.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	81.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	75.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553056)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	94.8	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	85.9	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	85.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	75.3	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553063)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	97.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	87.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	83.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	89.9	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	89.9	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	83.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553064)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	89.7	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	83.1	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	89.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	96.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	90.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	53.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553065)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	95.1	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	91.8	71.0	127



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553065) - continued								
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	98.4	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	96.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	# 145	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553066)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	85.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	74.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	75.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	88.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	134	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553049)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	76.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	80.2	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	100	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	78.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	80.6	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	77.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	71.0	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	88.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	75.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553056)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.2	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	97.8	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	96.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	110	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	89.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.6	65.0	144



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553056) - continued								
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	91.7	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553063)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.2	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	94.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	93.0	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	99.0	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	87.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	89.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553064)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	92.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.2	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	95.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	65.8	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: 5553065)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	89.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	104	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	94.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.8	69.0	133



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553065) - continued								
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	120	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553066)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	83.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	86.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	80.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	82.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	76.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	75.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	79.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553049)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	114	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	88.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	68.4	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	75.5	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	82.4	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	102	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553056)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	99.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	99.3	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	104	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	94.0	62.6	138



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553056) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	99.8	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.8	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553063)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	97.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	85.3	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	100	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.7	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	90.2	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	96.6	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	98.2	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553064)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	118	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	93.5	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	96.9	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	88.6	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	82.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553065)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	87.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	103	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	122	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	118	65.0	136	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553065) - continued									
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	98.4	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553066)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	82.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	86.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.5	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	111	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.2	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553049)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	87.3	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	84.2	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	73.3	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	89.7	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553056)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	106	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	93.8	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	100	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: 5553063)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	106	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	98.4	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	91.4	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	80.9	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553064)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	103	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	96.5	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	92.1	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	# 61.0	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553065)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553065) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	90.5	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	98.4	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	111	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	93.6	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553066)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	88.3	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	87.0	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	86.7	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	69.3	64.2	133
EP231P: PFAS Sums (QCLot: 5553049)								
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: 5553056)								
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: 5553063)								
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: 5553064)								
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: 5553065)								
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: 5553066)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 5553066) - continued								
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	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553049)							
ET2400201-005	0874_SW017_240111	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	111	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	112	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	124	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	111	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	96.1	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	89.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553056)							
ET2400201-021	0874_SW108_240111	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	102	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	92.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	84.6	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	88.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	74.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553063)							
ET2400201-045	0874_SW127_240113	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	99.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	89.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	87.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	74.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553064)							
ET2400201-066	0874_SW108_240113	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	90.1	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	102	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	99.3	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	113	69.0	134



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: 5553064) - continued							
ET2400201-066	0874_SW108_240113	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	94.3	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	53.3	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553065)							
ET2400201-083	0874_SW115_240114	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	90.2	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	79.1	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	77.8	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	128	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5553066)							
ET2400201-105	0874_SW118_240115	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	89.1	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	102	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	72.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	81.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	98.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	126	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553049)							
ET2400201-005	0874_SW017_240111	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	75.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	128	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	128	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	99.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	92.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	84.9	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	116	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	115	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	74.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553056)							
ET2400201-021	0874_SW108_240111	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	109	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	99.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	102	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	97.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.6	71.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553056) - continued							
ET2400201-021	0874_SW108_240111	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	103	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	91.3	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	95.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	93.0	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553063)							
ET2400201-045	0874_SW127_240113	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	90.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	97.6	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	86.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	94.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	90.0	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553064)					
ET2400201-066	0874_SW108_240113	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	93.6	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	101	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.7	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.1	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	95.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.6	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	93.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	# 55.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553065)					
ET2400201-083	0874_SW115_240114	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	83.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	88.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	90.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	91.3	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	82.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	76.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	74.2	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	75.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	82.0	72.0	134



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553065) - continued							
ET2400201-083	0874_SW115_240114	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	90.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	103	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5553066)							
ET2400201-105	0874_SW118_240115	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	80.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	91.7	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	77.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	89.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	75.3	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	78.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	72.6	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	73.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	80.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	84.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	102	71.0	132		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553049)							
ET2400201-005	0874_SW017_240111	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	119	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	117	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	97.1	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	103	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	86.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	124	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553056)							
ET2400201-021	0874_SW108_240111	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	97.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	84.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	99.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	92.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	91.0	65.0	136



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553056) - continued							
ET2400201-021	0874_SW108_240111	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	83.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553063)							
ET2400201-045	0874_SW127_240113	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	73.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	95.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	83.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	79.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	80.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553064)							
ET2400201-066	0874_SW108_240113	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	93.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	125	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	126	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.1	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	101	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	85.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553065)							
ET2400201-083	0874_SW115_240114	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	76.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	117	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.8	65.0	136



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: 5553065) - continued							
ET2400201-083	0874_SW115_240114	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	86.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5553066)							
ET2400201-105	0874_SW118_240115	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	82.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	78.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.4	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	95.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	84.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553049)							
ET2400201-005	0874_SW017_240111	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	87.5	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	99.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	115	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553056)							
ET2400201-021	0874_SW108_240111	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	108	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	92.9	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	117	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553063)							
ET2400201-045	0874_SW127_240113	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	94.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	99.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	96.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	106	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553064)							
ET2400201-066	0874_SW108_240113	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	96.5	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	# 54.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553065)							
ET2400201-083	0874_SW115_240114	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	84.0	63.0	143



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: 5553065) - continued							
ET2400201-083	0874_SW115_240114	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	84.5	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	83.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	70.6	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5553066)							
ET2400201-105	0874_SW118_240115	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	80.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	93.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	90.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	79.1	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2400201

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 1307 FORTITUDE VALLEY QLD, AUSTRALIA 4006	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]@aecom.com	E-mail	: [REDACTED]@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8616
Facsimile	: ----	Facsimile	:
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 5
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 62359	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 17-Jan-2024 08:20	Issue Date	: 18-Jan-2024
Client Requested Due Date	: 30-Jan-2024	Scheduled Reporting Date	: 30-Jan-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.3,4.5°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 112 / 112

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
- ***Samples were originally received by ALS Townsviller on 16/01/2024, and forwarded to ALS Brisbane for analysis.**
- 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).
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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)
ET2400201-001	11-Jan-2024 10:38	0874_SW127_240111	✓
ET2400201-002	11-Jan-2024 10:58	0874_SW129_240111	✓
ET2400201-003	11-Jan-2024 11:57	0874_SW112_240111	✓
ET2400201-004	11-Jan-2024 12:28	0874_SW014_240111	✓
ET2400201-005	11-Jan-2024 12:38	0874_SW017_240111	✓
ET2400201-006	11-Jan-2024 13:10	0874_SW102_240111	✓
ET2400201-007	11-Jan-2024 13:11	0874_QC100_240111	✓
ET2400201-008	11-Jan-2024 13:27	0874_SW016_240111	✓
ET2400201-009	11-Jan-2024 13:35	0874_SW131_240111	✓
ET2400201-010	11-Jan-2024 13:51	0874_SW125_240111	✓
ET2400201-011	11-Jan-2024 14:03	0874_SW123_240111	✓
ET2400201-012	11-Jan-2024 14:25	0874_SW010_240111	✓
ET2400201-013	11-Jan-2024 14:34	0874_SW132_240111	✓
ET2400201-014	11-Jan-2024 15:07	0874_SW121_240111	✓
ET2400201-015	11-Jan-2024 15:08	0874_QC101_240111	✓
ET2400201-016	11-Jan-2024 15:27	0874_SW117_240111	✓
ET2400201-017	11-Jan-2024 15:33	0874_SW118_240111	✓
ET2400201-018	11-Jan-2024 15:49	0874_SW115_240111	✓
ET2400201-019	11-Jan-2024 16:09	0874_SW116_240111	✓
ET2400201-020	11-Jan-2024 16:24	0874_SW109_240111	✓
ET2400201-021	11-Jan-2024 16:33	0874_SW108_240111	✓
ET2400201-022	11-Jan-2024 16:36	0874_QC300_240111	✓
ET2400201-023	12-Jan-2024 09:29	0874_SW127_240112	✓
ET2400201-024	12-Jan-2024 09:45	0874_SW129_240112	✓
ET2400201-025	12-Jan-2024 10:31	0874_SW112_240112	✓
ET2400201-026	12-Jan-2024 10:50	0874_SW014_240112	✓
ET2400201-027	12-Jan-2024 10:59	0874_SW017_240112	✓
ET2400201-028	12-Jan-2024 11:18	0874_SW121_240112	✓
ET2400201-029	12-Jan-2024 13:16	0874_SW102_240112	✓
ET2400201-030	12-Jan-2024 12:04	0874_SW016_240112	✓
ET2400201-031	12-Jan-2024 12:14	0874_SW131_240112	✓
ET2400201-032	12-Jan-2024 12:14	0874_QC102_240112	✓
ET2400201-033	12-Jan-2024 12:35	0874_SW125_240112	✓
ET2400201-034	12-Jan-2024 12:45	0874_SW123_240112	✓
ET2400201-035	12-Jan-2024 13:28	0874_SW010_240112	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

ET2400201-036	12-Jan-2024 13:40	0874_SW132_240112	✓
ET2400201-037	12-Jan-2024 13:56	0874_SW117_240112	✓
ET2400201-038	12-Jan-2024 13:56	0874_QC103_240112	✓
ET2400201-039	12-Jan-2024 14:05	0874_SW118_240112	✓
ET2400201-040	12-Jan-2024 14:23	0874_SW115_240112	✓
ET2400201-041	12-Jan-2024 14:36	0874_SW116_240112	✓
ET2400201-042	12-Jan-2024 14:59	0874_SW109_240112	✓
ET2400201-043	12-Jan-2024 15:06	0874_SW108_240112	✓
ET2400201-044	12-Jan-2024 15:07	0874_QC301_240112	✓
ET2400201-045	13-Jan-2024 09:25	0874_SW127_240113	✓
ET2400201-046	13-Jan-2024 09:38	0874_SW129_240113	✓
ET2400201-047	13-Jan-2024 10:22	0874_SW112_240113	✓
ET2400201-048	13-Jan-2024 10:39	0874_SW014_240113	✓
ET2400201-049	13-Jan-2024 10:49	0874_SW017_240113	✓
ET2400201-050	13-Jan-2024 11:09	0874_SW121_240113	✓
ET2400201-051	13-Jan-2024 11:51	0874_SW102_240113	✓
ET2400201-052	13-Jan-2024 12:02	0874_SW016_240113	✓
ET2400201-053	13-Jan-2024 12:12	0874_SW131_240113	✓
ET2400201-054	13-Jan-2024 12:33	0874_SW125_240113	✓
ET2400201-055	13-Jan-2024 12:46	0874_SW123_240113	✓
ET2400201-056	13-Jan-2024 13:04	0874_SW010_240113	✓
ET2400201-057	13-Jan-2024 13:05	0874_QC104_240113	✓
ET2400201-058	13-Jan-2024 13:14	0874_SW132_240113	✓
ET2400201-059	13-Jan-2024 13:27	0874_SW117_240113	✓
ET2400201-060	13-Jan-2024 13:35	0874_SW118_240113	✓
ET2400201-061	13-Jan-2024 13:48	0874_SW115_240113	✓
ET2400201-062	13-Jan-2024 13:49	0874_QC105_240113	✓
ET2400201-063	13-Jan-2024 13:59	0874_SW116_240113	✓
ET2400201-064	13-Jan-2024 14:13	0874_SW109_240113	✓
ET2400201-065	13-Jan-2024 14:15	0874_QC302_240113	✓
ET2400201-066	13-Jan-2024 14:22	0874_SW108_240113	✓
ET2400201-067	14-Jan-2024 09:01	0874_SW127_240114	✓
ET2400201-068	14-Jan-2024 09:17	0874_SW129_240114	✓
ET2400201-069	14-Jan-2024 10:19	0874_SW112_240114	✓
ET2400201-070	14-Jan-2024 10:20	0874_SW014_240114	✓
ET2400201-071	14-Jan-2024 10:26	0874_SW017_240114	✓
ET2400201-072	14-Jan-2024 10:49	0874_SW121_240114	✓
ET2400201-073	14-Jan-2024 10:53	0874_SW102_240114	✓
ET2400201-074	14-Jan-2024 11:32	0874_SW016_240114	✓
ET2400201-075	14-Jan-2024 11:39	0874_SW131_240114	✓
ET2400201-076	14-Jan-2024 11:55	0874_SW125_240114	✓



			WATER - EP231X PFAS - Full Suite (28 analytes)
ET2400201-077	14-Jan-2024 12:07	0874_SW123_240114	✓
ET2400201-078	14-Jan-2024 10:21	0874_QC106_240114	✓
ET2400201-079	14-Jan-2024 12:19	0874_SW010_240114	✓
ET2400201-080	14-Jan-2024 12:28	0874_SW132_240114	✓
ET2400201-081	14-Jan-2024 13:14	0874_SW117_240114	✓
ET2400201-082	14-Jan-2024 13:32	0874_SW118_240114	✓
ET2400201-083	14-Jan-2024 13:33	0874_SW115_240114	✓
ET2400201-084	14-Jan-2024 13:43	0874_SW116_240114	✓
ET2400201-085	14-Jan-2024 13:51	0874_SW109_240114	✓
ET2400201-086	14-Jan-2024 13:58	0874_SW108_240114	✓
ET2400201-087	14-Jan-2024 13:32	0874_QC107_240114	✓
ET2400201-088	14-Jan-2024 14:01	0874_QC303_240114	✓
ET2400201-089	15-Jan-2024 09:41	0874_SW127_240115	✓
ET2400201-090	15-Jan-2024 09:59	0874_SW129_240115	✓
ET2400201-091	15-Jan-2024 10:33	0874_SW112_240115	✓
ET2400201-092	15-Jan-2024 10:50	0874_SW014_240115	✓
ET2400201-093	15-Jan-2024 10:50	0874_QC108_240115	✓
ET2400201-094	15-Jan-2024 11:03	0874_SW017_240115	✓
ET2400201-095	15-Jan-2024 11:19	0874_SW121_240115	✓
ET2400201-096	15-Jan-2024 11:49	0874_SW102_240115	✓
ET2400201-097	15-Jan-2024 12:00	0874_SW016_240115	✓
ET2400201-098	15-Jan-2024 12:09	0874_SW131_240115	✓
ET2400201-099	15-Jan-2024 12:24	0874_SW125_240115	✓
ET2400201-100	15-Jan-2024 12:34	0874_SW123_240115	✓
ET2400201-101	15-Jan-2024 13:03	0874_SW010_240115	✓
ET2400201-102	15-Jan-2024 13:12	0874_SW132_240115	✓
ET2400201-103	15-Jan-2024 13:53	0874_SW117_240115	✓
ET2400201-104	15-Jan-2024 13:53	0874_QC109_240115	✓
ET2400201-105	15-Jan-2024 14:01	0874_SW118_240115	✓
ET2400201-106	15-Jan-2024 14:08	0874_SW115_240115	✓
ET2400201-107	15-Jan-2024 14:16	0874_SW116_240115	✓
ET2400201-108	15-Jan-2024 14:28	0874_SW109_240115	✓
ET2400201-109	15-Jan-2024 14:34	0874_SW108_240115	✓
ET2400201-110	15-Jan-2024 14:36	0874_QC304_240115	✓
ET2400201-111	15-Jan-2024 14:41	0874_QC502_240115	✓
ET2400201-112	15-Jan-2024 14:41	0874_QC503_240115	✓

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	[REDACTED]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[REDACTED]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[REDACTED]
- Chain of Custody (CoC) (COC)	Email	[REDACTED]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	[REDACTED]
- EDI Format - ESDAT (ESDAT)	Email	[REDACTED]
[REDACTED]		
- *AU Certificate of Analysis - NATA (COA)	Email	[REDACTED]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[REDACTED]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[REDACTED]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[REDACTED]
- Chain of Custody (CoC) (COC)	Email	[REDACTED]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	[REDACTED]
- EDI Format - ESDAT (ESDAT)	Email	[REDACTED]
[REDACTED]		
- *AU Certificate of Analysis - NATA (COA)	Email	[REDACTED]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[REDACTED]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[REDACTED]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[REDACTED]
- Chain of Custody (CoC) (COC)	Email	[REDACTED]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	[REDACTED]
- EDI Format - ESDAT (ESDAT)	Email	[REDACTED]
[REDACTED]		
- *AU Certificate of Analysis - NATA (COA)	Email	[REDACTED]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[REDACTED]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[REDACTED]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[REDACTED]
- Chain of Custody (CoC) (COC)	Email	[REDACTED]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	[REDACTED]
- EDI Format - ESDAT (ESDAT)	Email	[REDACTED]
[REDACTED]		
- *AU Certificate of Analysis - NATA (COA)	Email	[REDACTED]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[REDACTED]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[REDACTED]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[REDACTED]
- Chain of Custody (CoC) (COC)	Email	[REDACTED]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	[REDACTED]
- EDI Format - ESDAT (ESDAT)	Email	[REDACTED]

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

AECOM Aust Pty Ltd TSV
 Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810



NATA Accredited
 Accreditation Number 1261
 Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: [REDACTED]

Report **1059679-W**
 Project name **0874**
 Project ID **60612487_2.1**
 Received Date **Jan 16, 2024**

Client Sample ID			0874_QC200_2 40111	0874_QC201_2 40111	0874_QC202_2 40112	0874_QC203_2 40112
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ja0016433	TW24- Ja0016434	TW24- Ja0016435	TW24- Ja0016436
Date Sampled			Jan 11, 2024	Jan 11, 2024	Jan 12, 2024	Jan 12, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	0.20	0.43
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.01	0.02	0.27	0.55
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	0.03	0.04	1.1	2.4
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	^{N09} 0.13	^{N09} 0.48
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	^{N09} 0.01	^{N09} 0.25	^{N09} 1.2
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.02
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	94	86	54	83
13C5-PFPeA (surr.)	1	%	120	106	75	119
13C5-PFHxA (surr.)	1	%	123	115	64	133
13C4-PFHpA (surr.)	1	%	92	90	69	93
13C8-PFOA (surr.)	1	%	95	88	67	90
13C5-PFNA (surr.)	1	%	93	95	86	106
13C6-PFDA (surr.)	1	%	98	100	76	72
13C2-PFUnDA (surr.)	1	%	97	96	87	137
13C2-PFDoDA (surr.)	1	%	126	130	98	159
13C2-PFTeDA (surr.)	1	%	84	77	70	101
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	61	75	61	120
D3-N-MeFOSA (surr.)	1	%	24	31	32	137

Client Sample ID			0874_QC200_2 40111	0874_QC201_2 40111	0874_QC202_2 40112	0874_QC203_2 40112
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ja0016433	TW24- Ja0016434	TW24- Ja0016435	TW24- Ja0016436
Date Sampled			Jan 11, 2024	Jan 11, 2024	Jan 12, 2024	Jan 12, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSA (surr.)	1	%	37	43	42	174
D7-N-MeFOSE (surr.)	1	%	28	31	27	72
D9-N-EtFOSE (surr.)	1	%	29	32	30	72
D5-N-EtFOSAA (surr.)	1	%	94	88	85	121
D3-N-MeFOSAA (surr.)	1	%	86	89	93	117
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.03	0.06	0.47	1.1
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	^{N09} < 0.01	^{N09} 0.03
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	0.02	0.13	0.28
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 0.02	^{N09} 0.04	^{N09} 0.53	^{N09} 0.95
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 0.24	^{N09} 0.32	^{N09} 4.2	^{N09} 6.2
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.02	< 0.01	^{N09} 0.17	^{N09} 0.29
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 0.59	^{N09} 0.27	^{N09} 6.2	^{N09} 11
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	123	120	86	89
18O2-PFHxS (surr.)	1	%	76	77	75	103
13C8-PFOS (surr.)	1	%	94	93	72	105
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	134	118	108	110
13C2-6:2 FTSA (surr.)	1	%	199	INT	160	176
13C2-8:2 FTSA (surr.)	1	%	136	158	155	156
13C2-10:2 FTSA (surr.)	1	%	128	141	119	180
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	0.83	0.59	10.4	17.2
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.59	0.28	6.45	12.2
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.83	0.6	10.65	18.4
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	0.9	0.72	12.82	23.36
Sum of PFASs (n=30)*	0.1	ug/L	0.94	0.78	13.65	24.93

Client Sample ID			0874_QC204_2 40113	0874_QC205_2 40113	0874_QC206_2 40114	0874_QC207_2 40114
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ja0016437	TW24- Ja0016438	TW24- Ja0016439	TW24- Ja0016440
Date Sampled			Jan 13, 2024	Jan 13, 2024	Jan 14, 2024	Jan 14, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.14	0.07	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.19	0.09	< 0.01	0.06
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	0.36	0.43	< 0.01	0.20
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	^{N09} 0.11	0.05	< 0.01	0.04
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{N09} 0.29	^{N09} 0.12	< 0.01	^{N09} 0.10
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	^{N09} 0.03	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	65	141	102	109
13C5-PFPeA (surr.)	1	%	91	131	134	148
13C5-PFHxA (surr.)	1	%	87	92	137	126
13C4-PFHpA (surr.)	1	%	78	123	114	109
13C8-PFOA (surr.)	1	%	73	104	111	113
13C5-PFNA (surr.)	1	%	88	111	107	113
13C6-PFDA (surr.)	1	%	90	106	122	113
13C2-PFUnDA (surr.)	1	%	102	139	109	125
13C2-PFDoDA (surr.)	1	%	126	148	145	156
13C2-PFTTeDA (surr.)	1	%	66	167	95	97
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	87	183	86	114
D3-N-MeFOSA (surr.)	1	%	22	INT	43	127
D5-N-EtFOSA (surr.)	1	%	27	INT	55	144
D7-N-MeFOSE (surr.)	1	%	31	INT	41	81
D9-N-EtFOSE (surr.)	1	%	32	INT	42	72
D5-N-EtFOSAA (surr.)	1	%	104	182	114	137
D3-N-MeFOSAA (surr.)	1	%	95	157	99	100
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.18	0.20	< 0.01	0.10
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	^{N09} 0.06	< 0.01	< 0.01	^{N09} < 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.03	0.07	< 0.01	0.02
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 0.15	^{N09} 0.18	< 0.01	^{N09} 0.10
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 1.3	^{N09} 1.5	< 0.01	^{N09} 0.79
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.07	^{N09} 0.06	< 0.01	^{N09} 0.05
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 4.3	^{N09} 2.2	^{N09} 0.01	^{N09} 1.7
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			0874_QC204_2 40113	0874_QC205_2 40113	0874_QC206_2 40114	0874_QC207_2 40114
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ja0016437	TW24- Ja0016438	TW24- Ja0016439	TW24- Ja0016440
Date Sampled			Jan 13, 2024	Jan 13, 2024	Jan 14, 2024	Jan 14, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSA)						
13C3-PFBS (surr.)	1	%	102	103	145	145
18O2-PFHxS (surr.)	1	%	82	123	101	83
13C8-PFOS (surr.)	1	%	92	125	115	106
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	0.07	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	119	INT	136	137
13C2-6:2 FTSA (surr.)	1	%	117	98	INT	INT
13C2-8:2 FTSA (surr.)	1	%	INT	196	154	170
13C2-10:2 FTSA (surr.)	1	%	INT	INT	142	178
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	5.6	3.7	0.01	2.49
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	4.59	2.32	0.01	1.8
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	5.89	3.82	0.01	2.59
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	6.94	4.66	< 0.05	2.99
Sum of PFASs (n=30)*	0.1	ug/L	7.28	4.97	< 0.1	3.16

Client Sample ID			0874_QC208_2 40115	0874_QC209_2 40115	0874_QC501_2 40116
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW24- Ja0016441	TW24- Ja0016442	TW24- Ja0016443
Date Sampled			Jan 15, 2024	Jan 15, 2024	Jan 16, 2024
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCA)					
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	0.06	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	0.08	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	0.28	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	^{N09} 0.06	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	^{N09} 0.12	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	94	104	135
13C5-PFPeA (surr.)	1	%	113	135	117
13C5-PFHxA (surr.)	1	%	121	121	118
13C4-PFHpA (surr.)	1	%	96	103	139
13C8-PFOA (surr.)	1	%	97	103	121
13C5-PFNA (surr.)	1	%	94	114	88
13C6-PFDA (surr.)	1	%	99	125	91

Client Sample ID			0874_QC208_2 40115	0874_QC209_2 40115	0874_QC501_2 40116
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW24- Ja0016441	TW24- Ja0016442	TW24- Ja0016443
Date Sampled			Jan 15, 2024	Jan 15, 2024	Jan 16, 2024
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCAs)					
13C2-PFUnDA (surr.)	1	%	90	133	80
13C2-PFDoDA (surr.)	1	%	113	168	79
13C2-PFTeDA (surr.)	1	%	76	115	61
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	77	115	81
D3-N-MeFOSA (surr.)	1	%	28	128	143
D5-N-EtFOSA (surr.)	1	%	40	152	151
D7-N-MeFOSE (surr.)	1	%	29	68	76
D9-N-EtFOSE (surr.)	1	%	31	67	93
D5-N-EtFOSAA (surr.)	1	%	89	150	98
D3-N-MeFOSAA (surr.)	1	%	91	125	95
Perfluoroalkyl sulfonic acids (PFSA)					
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	< 0.01	0.15	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	0.03	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 0.12	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 0.01	^{N09} 0.99	< 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 0.05	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 0.02	^{N09} 1.2	< 0.01
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	131	133	122
18O2-PFHxS (surr.)	1	%	84	86	120
13C8-PFOS (surr.)	1	%	95	105	102
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	128	137	114
13C2-6:2 FTSA (surr.)	1	%	INT	INT	136
13C2-8:2 FTSA (surr.)	1	%	145	INT	90
13C2-10:2 FTSA (surr.)	1	%	121	INT	106

Client Sample ID			0874_QC208_2 40115	0874_QC209_2 40115	0874_QC501_2 40116
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW24- Ja0016441	TW24- Ja0016442	TW24- Ja0016443
Date Sampled			Jan 15, 2024	Jan 15, 2024	Jan 16, 2024
Test/Reference	LOR	Unit			
PFASs Summations					
Sum (PFHxS + PFOS)*	0.01	ug/L	0.03	2.19	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.02	1.32	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.03	2.31	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	2.94	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	3.14	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Jan 19, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Jan 19, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSA)	Brisbane	Jan 19, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Jan 19, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	6612487_2.1	Received:	Jan 16, 2024 10:20 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1059679	Due:	Jan 23, 2024
Project Name:	0874	Phone:	██████	Priority:	5 Day
Project ID:	60612487_2.1	Fax:	██████	Contact Name:	██████
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	0874_QC200_240111	Jan 11, 2024		Water	TW24-Ja0016433	X
2	0874_QC201_240111	Jan 11, 2024		Water	TW24-Ja0016434	X
3	0874_QC202_240112	Jan 12, 2024		Water	TW24-Ja0016435	X
4	0874_QC203_240112	Jan 12, 2024		Water	TW24-Ja0016436	X
5	0874_QC204_240113	Jan 13, 2024		Water	TW24-Ja0016437	X
6	0874_QC205_240113	Jan 13, 2024		Water	TW24-Ja0016438	X
7	0874_QC206_240114	Jan 14, 2024		Water	TW24-Ja0016439	X
8	0874_QC207_240114	Jan 14, 2024		Water	TW24-Ja0016440	X



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
South Townsville
QLD 4810

Order No.: 6612487_2.1
Report #: 1059679
Phone: [REDACTED]
Fax: [REDACTED]

Received: Jan 16, 2024 10:20 AM
Due: Jan 23, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name: 0874
Project ID: 60612487_2.1

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	0874_QC208_240115	Jan 15, 2024		Water	TW24-Ja0016441	X
10	0874_QC209_240115	Jan 15, 2024		Water	TW24-Ja0016442	X
11	0874_QC501_240116	Jan 16, 2024		Water	TW24-Ja0016443	X
Test Counts						11

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit	Colour: Pt-Co Units	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPa, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 70 – 130%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFASs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	89			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	102			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	89			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	90			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	84			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	87			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	94			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	97			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	88			50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	71			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	83			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	96			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	99			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	89			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	90			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	75			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	90			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	103			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	82			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	70			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	97			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	88			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	95			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	89			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	99			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	62			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	84			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	86			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	101			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	83			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
				Result 1				
Perfluorobutanoic acid (PFBA)	TW24-Ja0016443	CP	%	92		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW24-Ja0016443	CP	%	95		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW24-Ja0016443	CP	%	96		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	TW24-Ja0016443	CP	%	90		50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW24-Ja0016443	CP	%	95		50-150	Pass	
Perfluorononanoic acid (PFNA)	TW24-Ja0016443	CP	%	91		50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW24-Ja0016443	CP	%	107		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW24-Ja0016443	CP	%	106		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW24-Ja0016443	CP	%	97		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW24-Ja0016443	CP	%	63		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW24-Ja0016443	CP	%	103		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
				Result 1				
Perfluorooctane sulfonamide (FOSA)	TW24-Ja0016443	CP	%	110		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ja0016443	CP	%	109		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ja0016443	CP	%	98			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ja0016443	CP	%	96			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW24-Ja0016443	CP	%	93			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ja0016443	CP	%	100			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ja0016443	CP	%	93			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	TW24-Ja0016443	CP	%	82			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW24-Ja0016443	CP	%	92			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ja0016443	CP	%	80			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ja0016443	CP	%	90			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW24-Ja0016443	CP	%	98			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ja0016443	CP	%	94			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW24-Ja0016443	CP	%	108			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW24-Ja0016443	CP	%	57			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW24-Ja0016443	CP	%	92			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ja0016443	CP	%	89			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ja0016443	CP	%	103			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW24-Ja0016443	CP	%	96			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	TW24-Ja0016438	CP	ug/L	0.07	0.08	5.1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	TW24-Ja0016438	CP	ug/L	0.09	0.10	3.3	30%	Pass	
Perfluorohexanoic acid (PFHxA)	TW24-Ja0016438	CP	ug/L	0.43	0.47	9.9	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	TW24-Ja0016438	CP	ug/L	0.05	0.06	6.2	30%	Pass	
Perfluorooctanoic acid (PFOA)	TW24-Ja0016438	CP	ug/L	0.12	0.12	2.4	30%	Pass	
Perfluorononanoic acid (PFNA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorododecanoic acid (PFDoDA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTTrDA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	TW24-Ja0016438	CP	ug/L	0.20	0.23	15	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ja0016438	CP	ug/L	0.07	0.07	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ja0016438	CP	ug/L	0.18	0.20	11	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW24-Ja0016438	CP	ug/L	1.5	1.7	10	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ja0016438	CP	ug/L	0.06	0.06	4.8	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW24-Ja0016438	CP	ug/L	2.2	2.7	20	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ja0016438	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW24-Ja0016438	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanoic acid (PFNA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotridecanoic acid (PFTrDA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ja0016443	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW24-Ja0016443	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Quality Control Analyte Summary Compliance

The table below is the actual occurrence of QC performed on the batch of samples within this report and as defined below

Analysis	Samples Analysed	Laboratory Duplicates Reported	Laboratory Matrix Spikes Reported	Method Blanks Reported	Laboratory Control Samples Reported
Perfluoroalkyl carboxylic acids (PFCAs)	11	2	1	1	1
Perfluoroalkyl sulfonamido substances	11	2	1	1	1
Perfluoroalkyl sulfonic acids (PFSAAs)	11	2	1	1	1
n:2 Fluorotelomer sulfonic acids (n:2 FTSAAs)	11	2	1	1	1

Quality Control Parameter Frequency Compliance follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure April 2011, Schedule B3, Guideline on Laboratory Analysis of Potentially Contaminated Soils and US EPA SW-846 Chapter 1: 'Quality Control'.

It comprises the following when a laboratory process batch is deemed to consist of up to 20 samples that are similar in terms of matrix and test procedure, and are processed as one unit for QC purposes. If more than 20 samples are being processed, they are considered as more than one batch.

Method blank

One method blank per process batch.

Laboratory duplicate

There should be at least one duplicate per process batch, or two duplicates if the process batch exceeds 10 samples.

Laboratory control sample (LCS)

There should be at least one LCS per process batch.

Matrix spikes

There should be one matrix spike per matrix type per process batch.



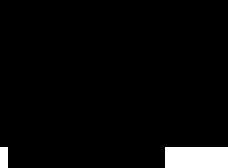
Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS


Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name: AECOM Aust Pty Ltd TSV
Contact name: [REDACTED]
Project name: 0874
Project ID: 60612487_2.1
Turnaround time: 5 Day
Date/Time received: Jan 16, 2024 10:20 AM
Eurofins reference: 1059679

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✗ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]@eurofins.com

Results will be delivered electronically via email to [REDACTED] - [REDACTED]@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd TSV email address.



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289
---	--	--	--	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
South Townsville
QLD 4810

Order No.: 6612487_2.1
Report #: 1059679
Phone: [REDACTED]
Fax: [REDACTED]

Received: Jan 16, 2024 10:20 AM
Due: Jan 23, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name: 0874
Project ID: 60612487_2.1

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	0874_QC200_240111	Jan 11, 2024		Water	TW24-Ja0016433	X
2	0874_QC201_240111	Jan 11, 2024		Water	TW24-Ja0016434	X
3	0874_QC202_240112	Jan 12, 2024		Water	TW24-Ja0016435	X
4	0874_QC203_240112	Jan 12, 2024		Water	TW24-Ja0016436	X
5	0874_QC204_240113	Jan 13, 2024		Water	TW24-Ja0016437	X
6	0874_QC205_240113	Jan 13, 2024		Water	TW24-Ja0016438	X
7	0874_QC206_240114	Jan 14, 2024		Water	TW24-Ja0016439	X
8	0874_QC207_240114	Jan 14, 2024		Water	TW24-Ja0016440	X



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	6612487_2.1	Received:	Jan 16, 2024 10:20 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1059679	Due:	Jan 23, 2024
Project Name:	0874	Phone:	██████	Priority:	5 Day
Project ID:	60612487_2.1	Fax:	██████	Contact Name:	██████████
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	0874_QC208_240115	Jan 15, 2024		Water	TW24-Ja0016441	X
10	0874_QC209_240115	Jan 15, 2024		Water	TW24-Ja0016442	X
11	0874_QC501_240116	Jan 16, 2024		Water	TW24-Ja0016443	X
Test Counts						11

Appendix F

Calibration Certificates

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP	Project Number:	60012427 2
Project Location:	2-2-25V	Client:	Water Corp
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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	1st pro PSS
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	14/01/2024				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.00	4.01	2749	99.3	231.2
Calibration Reading:	7.12	4.13	2752	99	233.1
Calibration Temperature:	25.0	24.8	24.0	24.3	24.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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.

Fieldwork Staff Signature: [Redacted] Date: 14/01/2024

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:		Project Number:	
Project Location:		Client:	
PM Name:		Fieldwork Staff Name:	

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/01/2023 8:15				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	mg/l	ppm
Calibration Standard Concentration:	7.00	4.00	2779	231.8	100
Calibration Reading:	7.17 → 7.00	4.02	2782	229.8	99.4
Calibration Temperature:	24.9	24.2	24.3	24.4	25.0

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature: _____ Date: 13/1/24

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMF - RAAF TSV	Project Number:	60612487-2.1
Project Location:	RAAF TSV	Client:	DEPT OF 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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18 K10 2334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	8:40 12/1/24				
Parameter	Acidity		Conductivity	OK! mV	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm	% -ppm
Calibration Standard Concentration:	4.01	7.00	2720	229.4	100
Calibration Reading:	4.25	7.09	2716	229.7	99.2
Calibration Temperature:	25.9	26.2	26.2	26.3	25.3

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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.

 Fieldwork Staff Signature

 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487.2.1
Project Location:	KAPE ISY	Client:	Dept. of Defense
PH 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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AELDM
Make and Model:	YSI Pro DSS
Serial Number:	13K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11/1/24 0915				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	4.00	7.00	2655	245.5	100
Calibration Reading:	3.90	6.88	2415	243.8	95.3
Calibration Temperature:	23.4	23.8	23.5	13.8	20.4

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected, calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

Date

Distribution: Project Central File



Calibration Certificate

AirMet Scientific P/L
 135 Sydney Street
 Mackay
 QLD 4740, Australia
 Tel: 07 4951 7500
 Fax: 07 4951 7575

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 6-Jul-2023 Call ID / Order No: 262375
 Calibration Date: 04-Jul-2023 Job No / Pack No: S2623750001
 Next Calibration Due: 4-Jul-2024

Customer: AECOM Australia Pty Ltd-ID 407250 **Serial No:** 18K102334
Description: Xylem ProDSS Handheld, No GPS

Calibration Summary

Frequency: 366 Days **Temp:** 22°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2623750001

Desc	As Found		As Left (Cal Status)	
	Actual	Result	Actual	Result
PH4	4.2	Pass	4.0	Pass
PH7	7.2	Pass	7.01	Pass
Specific Conductivity	2018.0	Fail	1414.0	Pass
DO	-0.6	Pass	0.0	Pass
Turbidity	48.3	Pass	49.5	Pass
Barometer	101.56	Pass	101.55	Pass
ORP	231.6	Pass	235.6	Pass
Temp 22.2C	22.2	Pass	22.2	Pass

Equip ID	Standard Used Description	Valid Until	Cert
S4220604	Vaisala PTU Transmitter	20/10/2023	

pH4 s/n399527, pH7 s/n399304, Cond1413uS/cm s/n398532, ORP zorbei A s/n393734 zorbei B s/n400204, DO Na2SO3 s/n12111, Turbidity 50NTU s/n401616

Completed By: [REDACTED]

Signed: [REDACTED]

Wet Season Sampling Event Factual Report, March 2024

PFAS OMP - RAAF Base Townsville

02-Jul-2024
PFAS Ongoing Monitoring Program - RAAF Base Townsville
Doc No. 60612487_RP117_20240702_0

Wet Season Sampling Event Factual Report, March 2024

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Wulgurukaba of Gurambilbarra and Yunbenun, Bindal, Gugu Badhun and Nywaigi Country, Lvl 5, 7 Tomlins Street, South Townsville QLD 4810, PO
Box 5423, Townsville QLD 4810, Australia
T +61 1800 868 654 www.aecom.com


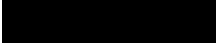
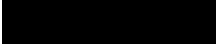
ABN 20 093 846 925

02-Jul-2024

Job No.: 60612487

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

Quality Information

Document Wet Season Sampling Event Factual Report, March 2024
 Ref 60612487_RP117_20240702_0
 Date 02-Jul-2024
 Originator 
 Checker/s 
 Verifier/s 

Revision History

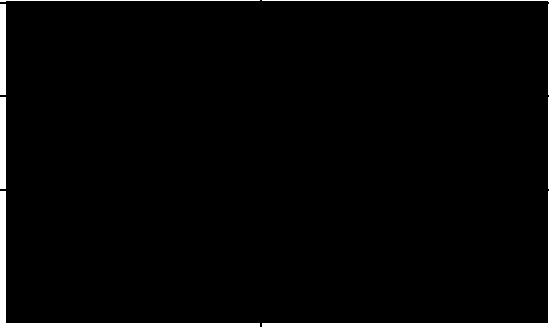
Rev	Revision Date	Details	Approved	
			Name/Position	Signature
A	01-May-2024	Draft for Review		
B	25-Jun-2024	Draft for Review		
0	02-Jul-2024	Final Issue		

Table of Contents

1.0	Introduction	1
	1.1 General	1
	1.2 Objectives	1
2.0	Scope of Work	2
3.0	Methodology	5
	3.1 Groundwater Sampling Methodology	5
	3.2 Surface Water Sampling Methodology	5
	3.3 Sediment Sampling Methodology	6
	3.4 Quality Assurance / Quality Control and Analysis	6
	3.5 Adopted Screening Criteria	6
	3.6 Data Quality Objectives and Data Validation	7
	3.7 Deviations from the SAQP	8
4.0	Field Observations and Results	9
	4.1 Groundwater	10
	4.1.1 Observations and Field Measurements	10
	4.1.2 Groundwater Analytical Results	11
	4.2 Surface Water	12
	4.2.1 Observations and Field Measurements	12
	4.2.2 PFAS Surface Water Analytical Results	12
	4.3 Sediment	13
	4.3.1 Observations and Field Measurements	13
	4.3.2 PFAS Sediment Analytical Results	13
5.0	Summary and Next Sampling Event	14
	5.1 Summary of Sampling Event	14
	5.2 Upcoming Sampling Events	15
	5.3 Upcoming Ongoing Monitoring Report	15
6.0	References	16
Appendix A	Figures	A
Appendix B	Analytical Tables	B
Appendix C	Data Validation	C
Appendix D	Chain of Custody Records	D
Appendix E	Laboratory Analytical Reports	E
Appendix F	Calibration Certificates	F

List of Tables (in Text)

Table 1	Groundwater Sampling Locations	3
Table 2	Surface Water Sampling Locations	4
Table 3	Sediment Sampling Locations	4
Table 4	Groundwater Sampling Methodology	5
Table 5	Surface Water Sampling Methodology	5
Table 6	Sediment Sampling Methodology	6
Table 7	QA/QC and Analysis for OMP	6
Table 8	Summary of Adopted Screening Criteria	7
Table 9	Deviations from the SAQP during 2024 Wet Season Sampling Event	8
Table 10	Weather Conditions and Estate Activities at Time of Sampling	9
Table 11	Groundwater Observations and Field Measurements	10
Table 12	Locations with New Historical Maximums for Groundwater	11
Table 13	Surface Water Observations and Field Measurements	12
Table 14	Locations of New Historical Maximum Concentrations for Surface Water	12
Table 15	Sediment Observations	13
Table 16	Locations of New Historical Maximum Concentrations for Sediment	13
Table 17	Summary of Sampling Event	14

List of Figures (Appendix A)

Figure 1	RAAF Base Townsville Location Plan
Figure 2	Groundwater Monitoring Locations
Figure 3	Surface Water and Sediment Monitoring Locations
Figure 4	Inferred Groundwater Contours – Wet Season
Figure 5	First-time Detections of PFOA, PFOS, or Sum of PFOS+PFHxS above LOR in Sediment
Figure 6	New Exceedances of Ecological Screening Criteria for PFOS and Drinking Water Criteria for Sum of PFOS+PFHxS in Groundwater

List of Tables (Appendix B)

Table T1	Groundwater Gauging
Table T2	Groundwater Field Parameters
Table T3	Groundwater PFAS Analytical Results
Table T4	Surface Water Field Parameters
Table T5	Surface Water PFAS Analytical Results
Table T6	Sediment Observations
Table T7	Sediment PFAS Analytical Results
Table T8	Historical Groundwater PFAS Analytical Results
Table T9	Historical Surface Water PFAS Analytical Results
Table T10	Historical Sediment PFAS Analytical Results

Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)
BoM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
GW	Groundwater
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPM	National Environmental Protection Measure
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling and Analysis Quality Plan
SD	Sediment
SMA	Sub-Management Area
SW	Surface Water
SWL	Standing Water Level
WQM	Water Quality Meter

Units of measurement

Unit	Definition	Unit	Definition
°C	Degrees Celsius	mAHD	Metres Australian Height Datum
L	Litre	mg	Milligrams
µS	Microsiemens	mm	Millimetre
kg	Kilogram	cm	Centimetre
m	Metre	mV	Millivolts
mBTOC	metres below top of casing	µg	Micrograms

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2020) at Royal Australian Air Force (RAAF) Base Townsville (the 'Base') located in the North Queensland Region. The Monitoring Area (which includes areas on-Base and off-Base), location of the Base and the Sub-Management Areas¹ are shown in **Figure 1, Appendix A**.

The OMP for Townsville (Defence, 2020) includes biannual groundwater, surface water, and sediment sampling events in April and October 2020, April and October 2021, April and October 2022, April and October 2023 and March 2024.

These biannual sampling events include:

- A gauging round completed on 28 wells to measure depth to water for generation of groundwater contours.
- Groundwater sampling of 58 monitoring wells on-Base and 47 wells off-Base for the wet season sampling events. Groundwater sampling for the dry season sampling events is conducted on 58 monitoring wells on-Base and 24 locations off-Base.
- Sediment sampling at 14 locations on-Base with co-located surface water sampling when water is present.
- Sediment sampling at 27 locations off-Base with co-located surface water sampling when water is present.

A sampling and analysis quality plan (SAQP) (AECOM, 2024) provides details of the sampling events.

This Sampling Event Factual Report has been prepared to report the results of the 2024 Wet Season Sampling Event which was completed in March 2024. This report specifically highlights first-time detections and/or new exceedances of human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonate (PFHxS) and/or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Defence, 2021).

1.2 Objectives

The objectives of the ongoing monitoring program are to:

- Implement the OMP prepared as part of the PMAP (Defence, 2020); 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 to protect human health and the environment, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the 2024 Wet Season Event Sampling scope of work in general accordance with the latest version of the SAQP (AECOM, 2024).

¹ Sub-Management Area 1 – South-east corner of Base north of No. 27 Squadron (27SQN) headquarters, Sub-Management Area 2 – Centre of Base including the Fire station and Fuel installation, Sub-Management Area 3 – 5th Aviation Regiment (5AVN) compound

2.0 Scope of Work

The sampling event was completed in general accordance with the SAQP (AECOM, 2024). In summary, the scope of work for this sampling event included:

- Review of the SAQP (AECOM, 2024) prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP), version 2.0 (HEPA, 2020)
 - National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM), Schedule B1 (as amended in 2013) (NEPC, 1999)
 - Defence Routine Environment Water Quality Monitoring Manual (Defence, 2019b)
 - AS/NZ 5667:1998 Water quality – Sampling
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Gauging of 27 nominated groundwater monitoring wells across a 24-hour period to enable groundwater contour generation (refer to **Table T1**, **Appendix B** and **Figure 4**, **Appendix A**). One well located off-Base, MW264, was unable to be gauged due to the road being resurfaced and the well lost/destroyed.
- Collection of groundwater samples from the locations nominated in the SAQP for the wet season sampling event. Of the 105 locations proposed to be sampled (AECOM, 2024), 103 sample locations (58 on-Base and 45 off-Base) were sampled (refer to **Table 1** and **Figure 2**, **Appendix A**). Two off-Base monitoring wells could not be sampled. MW238 and MW264 were unable to be sampled due to the road being resurfaced and the well lost/destroyed. Standing water level (SWL) was measured in all wells immediately prior to sampling.
- Collection of co-located surface water and sediment samples for the wet season sampling event. Of the 41 locations proposed to be sampled (AECOM, 2024), 37 locations (12 on-Base and 25 off-Base) were sampled for sediment, with 38 locations (12 on-Base and 26 off-Base) sampled for surface water (refer to **Table 2** and **Table 3**, and **Figure 3**, **Appendix A**). On-Base surface water and sediment co-located SW/SD112 was inaccessible due to the drainage channel being overgrown with grass, therefore, samples from this location were not collected. On-Base SW/SD106 and off-Base SW/SD209 were inaccessible due to the tracks being flooded, therefore, samples from these locations were not collected. Off-Base SW/SD119 was unable to be sampled for sediment due to the lack of sediment present in the concrete drain, however surface water was present at this location and a sample was collected.
- Analysis of all samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR).
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite, one rinsate sample per fieldwork day, and one trip blank per batch.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Wet Season Factual Report.

Table 1 Groundwater Sampling Locations

Area	Monitoring Well ID
On-Base	
SMA 1 – includes a Former Fire Training Area.	MW118
SMA 2 – includes a Former Fire Training Area, Fire Station, and Fuel Farm.	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
SMA 3 – includes 5th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, down gradient of SMA 2	MW136, MW140, MW243, MW244
North-west of Runway 07/25	MW112
East and south-east of SMA 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW224, MW232
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW228, MW229
Balance of Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW234, MW235, MW241, MW242, MW245, MW255, MW265, MW300, MW470
Off-Base	
Townsville Town Common, north of the Base	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208
Suburb of Pallarenda, north-east of the Base	MW233, MW252, MW253, MW301
Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW264^, MW467, MW471
Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270
Bohle River and Bohle Industrial Estate, west of the Base	MW231, MW237, MW238^, MW239, MW240, MW254, MW262

^ Location unable to be sampled due to the road being resurfaced and the well being lost/destroyed.

Table 2 Surface Water Sampling Locations

Locations		Surface Water Location ID
On-Base	Mundy Creek Catchment	SW001, SW010, SW106 [^] , SW121, SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014, SW016, SW112 [^] , SW123, SW125, SW126, SW131
	Three Mile Creek Catchment	SW102
Off-Base	Mundy Creek Catchment	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209 [^]
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207
	Three Mile Creek Catchment	SW107, SW210

[^] Location was unable to be sampled due to no access.

Table 3 Sediment Sampling Locations

Locations		Sediment Location ID
On-Base	Mundy Creek Catchment	SD001, SD010, SD106 [^] , SD121, SD132
	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD112 [^] , SD123, SD125, SD126, SD131
	Three Mile Creek Catchment	SD102
Off-Base	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119 [#] , SD208, SD209 [^]
	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Three Mile Creek Catchment	SD107, SD210

[^] Location was unable to be sampled due to no access.

[#] Location was unable to be sampled due to no sediment present in concrete drain.

3.0 Methodology

The methodology used for the 2024 Wet Season Sampling Event was in general accordance with the SAQP (AECOM, 2024) and is summarised in **Sections 3.1-3.3**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 4** below.

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater Gauging	The depth to groundwater was measured in the monitoring wells using an interface probe, commencing with on-Base wells, and moving to off-Base locations and finishing with tidally influenced wells along the coastline and waterways. The depth to groundwater was also measured in each monitoring well immediately prior to the collection of groundwater samples. The data are presented in Tables T1 and T2 in Appendix B .
Water Quality Parameters	Field parameters are collected ex situ post-sampling using water from the HydraSleeve™. Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded using a calibrated water quality meter (WQM). The results are presented in Table T2, Appendix B . Equipment calibration certificates for the WQM are provided in Appendix F .
Sampling Methodology	<p>Groundwater samples were collected from all 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 (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer.</p> <p>HydraSleeves™ were installed based on measured well depth. Where the water column was measured to be less than 1.5 m but more than 0.5 m, a top weight was added to the HydraSleeve™ before installation to ensure adequate sample volume could be collected. HydraSleeves™ were not redeployed.</p>

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 5** below.

Table 5 Surface Water Sampling Methodology

Item	Details
Water Quality Parameters	Field parameters were collected ex situ post-sampling using water from the stainless-steel scoop. Temperature, EC, DO, ORP, pH and observations of water quality were recorded using a calibrated WQM (results detailed in Table T4, Appendix B).
Sampling Methodology	<p>Samples were collected from 0.5 m below the water surface with a sampling pole to minimise collection of sediment or floating materials in the samples. At each location, a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into laboratory supplied containers with the cap immediately applied once the container was full.</p> <p>Where required, a boat was used to access some locations of the Bohle River.</p>

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 6** below.

Table 6 Sediment Sampling Methodology

Item	Details
Sampling Methodology	Samples representative of potentially deposited sediments were collected from within the water body (if possible) using a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6, Appendix B .

3.4 Quality Assurance / Quality Control and Analysis

The quality assurance/quality control (QA/QC) requirements and analysis completed for the OMP sampling event are summarised in **Table 7**, below.

Table 7 QA/QC and Analysis for OMP

Item	Details
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e., splits), trip blank samples and rinsate samples. Intra- and inter-laboratory samples were collected at a rate of one per ten primary samples. Trip blanks were prepared in the laboratory by filling sampling containers with laboratory supplied PFAS-free deionised water and were included with eight batches throughout the program (ET2401732, ET2401733, ET2401734, ET2401785, ET2401786, ET2401787, ET2401820, 1079816 and 1082188). Rinsate samples were collected at a rate of one per day when non-dedicated equipment was used by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite analysis using the standard levels of detection. Australian Laboratory Services (ALS) Environmental Pty Ltd Brisbane, Queensland was used as the primary laboratory. Eurofins of Brisbane, QLD was used as the secondary laboratory. ALS and Eurofins methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.5 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 include the following:

- PFAS NEMP, version 2.0 (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. October 2017 [updated September 2019].
- *National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM) (as amended in 2013), Schedule B1* (NEPC, 1999).

In accordance with the OMP (Defence, 2020) and SAQP (AECOM, 2024), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 8** below.

Table 8 Summary of Adopted Screening Criteria

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

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

3.6 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2024). Data validation assessment is provided in **Appendix C**. Data validation procedures 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 although some minor non-conformances are present, the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

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

3.7 Deviations from the SAQP

Table 9 lists the deviations from the SAQP (AECOM, 2024) during the 2024 Wet Season Sampling Event.

Table 9 Deviations from the SAQP during 2024 Wet Season Sampling Event

SAQP	2024 Wet Season Sampling Event	Impact of Deviation
Collection of 105 groundwater samples	Two groundwater samples were not collected, both located off-Base: <ul style="list-style-type: none"> MW238 and MW264 were unable to be sampled due to the road being resurfaced and the well lost/destroyed. 	PFAS concentrations unknown at these locations. Suitable down gradient wells are present and currently monitored.
Gauging of 28 wells	One well not gauged, MW264, for reason above.	No impact on the gauging event as suitable groundwater level data was collected to allow groundwater contour and flow direction to be inferred.
Sampling of 41 surface water / sediment sampling locations	Three co-located surface water and sediment sampling locations were unable to be sampled: <ul style="list-style-type: none"> SW/SD112 – Unable to be sampled due to drainage channel overgrown with grass and no access to location. SW/SD106 and SW/SD209 – unable to be sampled due to inaccessible flooded tracks. <p>One sediment sample, SD119, was unable to be collected due to a lack of sediment in the concrete drain.</p>	PFAS concentrations unknown at these locations. Ongoing monitoring required to determine PFAS concentrations.
Field ID of location SW017	Year in the Field ID (23 rather than 24) was incorrectly recorded on COC as 0874_SW017_230311. Field ID has been updated in the Appendix B results tables to 0874_SW017_230311	No impact on the dataset.

4.0 Field Observations and Results

The 2024 Wet Season Sampling Event was completed between 11 and 28 March 2024. Groundwater gauging and deployment of HydraSleeves™ was conducted at the beginning of the sampling round.

The results are summarised in the following sections.

Details on weather conditions and estate management works or training activities during the sampling event and access are recorded in **Table 10**.

Table 10 Weather Conditions and Estate Activities at Time of Sampling

Item	Observations
Weather Conditions	<p>Weather was wet and humid during the sampling program. The ambient temperature ranged between 26.7 °C and 34.3 °C in March 2024.</p> <p>A summary of the rainfall recorded since the completion of the Dry Season 2023 Sampling Event and during the Wet Season 2024 Sampling Event includes:</p> <ul style="list-style-type: none"> • November 2023: 18.4 mm • December 2023: 111.6 mm • January 2024: 238.4 mm • February 2024: 328.6 mm • March 2024: 83.6 mm
Estate Management Works or Training Activities	<p>The following activities were observed on-Base during the sampling event:</p> <ul style="list-style-type: none"> • Air555: Construction of new building and carpark behind health centre building (CPB and Shamrock Civil). • Excavation between on-Base road and fence to the east of 5AVN - between 5AVN entrance and RAAF museum area (Shamrock Civil). • Excavation along northern fence of 5AVN Pump Station compound (Duckworth St) - appears to be connected to point above (Shamrock Civil). • Fenced area between Air Traffic Control tower and 2SECFOR dog kennels - Shamrock Civil stockpile location and vac truck sludge processing area. <p>Information provided by Shamrock Civil Project Manager was that all soil and sludge removed from Shamrock projects on-Base is transported to this area for drying and stockpiling. Water is run through a treatment system and ultimately solid material will be transferred to Pad West.</p>
Other Activities	<p>MW238: Located on Trace Court, Bohle. Road has been resurfaced and the well has been lost/destroyed.</p> <p>MW264: Located on Old Common Road, Garbutt. Road has been resurfaced and the well has been lost/destroyed.</p>

The results of the sampling event are summarised in **Sections 4.1-4.3**.

4.1 Groundwater

4.1.1 Observations and Field Measurements

Table 11 Groundwater Observations and Field Measurements

Item	Observations										
Access	103 of the 105 monitoring wells were accessible for sampling with MW238 and MW264 not available as described above.										
Monitoring Well Network	All accessible monitoring wells were noted to be in good condition. A bolt was replaced in MW267.										
Depth to Groundwater	<p>Selected wells were gauged to ascertain groundwater flow direction. For the gauging event undertaken within a 24-hour period on 14 March 2024 (presented in Table T1, Appendix B), depth to groundwater ranged between 0.005 (MW002) and 2.310 (MW214) metres below top of casing (mBTC). Groundwater elevations were between 1.353 (MW214) and 4.722 (MW232) metres Australian Height Datum (mAHD). Groundwater contours are presented on Figure 4, Appendix A.</p> <p>For the entire Wet Season 2024 dataset, depth to groundwater ranged between 0.01 (MW002) and 6.923 (MW261) mBTC. Groundwater elevations were between 1.268 (MW244) and 9.575 (MW261) mAHD during the sampling event. Groundwater gauging data are presented in Tables T1 and T2, Appendix B.</p>										
Field Observations	<p>Groundwater samples were found to be typically odour and sheen free, with the exception of the following samples.</p> <table border="1"> <thead> <tr> <th>Observation</th> <th>Affected wells</th> </tr> </thead> <tbody> <tr> <td>Sulfurous odour</td> <td>MW118, MW122, MW226, MW242, MW268</td> </tr> <tr> <td>Hydrogen sulphide odour</td> <td>MW110, MW125, MW221</td> </tr> <tr> <td>Organic odour</td> <td>MW021, MW061, MW063, MW203, MW213, MW215, MW220, MW231, MW239, MW240, MW252</td> </tr> <tr> <td>Biosheen</td> <td>MW002</td> </tr> </tbody> </table> <p>Groundwater colour was typically recorded as clear; however, several groundwater colours were recorded including brown, grey, light brown, light grey, yellow/brown and grey/brown. Groundwater ranged from clear to turbid. No other visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells.</p> <p>Field observations are presented Table T2, Appendix B.</p>	Observation	Affected wells	Sulfurous odour	MW118, MW122, MW226, MW242, MW268	Hydrogen sulphide odour	MW110, MW125, MW221	Organic odour	MW021, MW061, MW063, MW203, MW213, MW215, MW220, MW231, MW239, MW240, MW252	Biosheen	MW002
Observation	Affected wells										
Sulfurous odour	MW118, MW122, MW226, MW242, MW268										
Hydrogen sulphide odour	MW110, MW125, MW221										
Organic odour	MW021, MW061, MW063, MW203, MW213, MW215, MW220, MW231, MW239, MW240, MW252										
Biosheen	MW002										
Groundwater Flow Direction	<p>Groundwater contours and inferred groundwater flow directions for the gauging event undertaken within a 24-hour period on 14 March 2024 are shown on Figure 4, Appendix A.</p> <p>Consistent with historical groundwater data, the inferred local groundwater flow direction in the central portions of the Base is to the north-east, towards Rowes Bay. Groundwater elevations in northern portions of the Base are flat. There appears to be localised mounding of groundwater in the south-eastern corner of the Base, with radial groundwater flow to the north, north-east and north-west. Groundwater flow off-Base to the east, towards Cleveland Bay, is flat.</p>										

Item	Observations
Water Quality Parameters	<p>Groundwater quality parameters were measured at the time of sampling. The readings are presented in Table T2, Appendix B and are summarised below, covering the sampling event completed in March 2024:</p> <ul style="list-style-type: none"> • DO results ranged from 0.19 mg/L (MW229) to 8.94 mg/L (MW250) indicating poor to well oxygenated conditions. • EC ranged from 284.8 µS/cm (MW269) to 118,115 µS/cm (MW263) indicating fresh to saline conditions. • pH ranged from 3.21 (MW207) to 8.23 (MW033) indicating acidic to alkaline conditions. • Corrected ORP ranged from 11.7 mV (MW268) to 562.8 mV (MW207) indicating mildly reducing to oxidising conditions. • Temperature ranged from 26.5°C (MW140) to 34.8°C (MW021).

4.1.2 Groundwater Analytical Results

Of the 103 groundwater wells sampled during the 2024 Wet Season Sampling Event, 93 samples reported concentrations of PFAS above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3, Appendix B** with laboratory analytical reported presented in **Appendix E**.

Two new exceedances of the ecological guideline for PFOS were recorded at MW234 and MW266 and two new exceedances of the drinking water guideline for Sum of PFOS+PFHxS were recorded at MW212 and MW266. MW234 is located on the western boundary of the Base, MW212 is located off-Base to the east of the northern portion of the Base and MW266 is located off-Base to the east of the southern corner of the Base as shown in **Figure 6, Appendix A**.

There were no first-time detections of PFOS, PFOA or PFHxS in any groundwater samples in March 2024.

Historical groundwater results are presented in **Table T8, Appendix B**. Groundwater results from this sampling event were compared to the historical range of sample results reported at each location. **Table 12** identifies the locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS.

Table 12 Locations with New Historical Maximums for Groundwater

Compound	Location	
	On-Base	Off-Base
PFOS	MW021, MW063, MW234, MW241, MW265, MW300	MW201, MW204, MW207, MW212, MW231, MW266, MW268
PFOA	MW063, MW125, MW241	-
Sum of PFOS+PFHxS	MW234, MW241	MW201, MW204, MW207, MW212, MW231, MW257, MW266, MW268,

Groundwater sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of MW207 and MW266 which reported concentrations of PFOS and Sum of PFOS+PFHxS one (or more) order of magnitude higher than historical results. The Laboratory was requested to repeat the analysis for MW266 and confirmed the results to be correct.

4.2 Surface Water

4.2.1 Observations and Field Measurements

Table 13 Surface Water Observations and Field Measurements

Item	Observations										
Access	38 of the 41 surface water locations were accessible during the sampling event with SW106, SW112 and SW209 not available as described in Section 3.7 .										
Wet Season Field Observations	<p>Sampled surface water locations were generally found to be odour and sheen free, with the exception of the following samples:</p> <table border="1"> <thead> <tr> <th>Observation</th> <th>Affected locations</th> </tr> </thead> <tbody> <tr> <td>Organic odour</td> <td>SW013, SW111, SW108</td> </tr> <tr> <td>Sulfurous odour</td> <td>SW121</td> </tr> <tr> <td>Hydrogen sulphide odour</td> <td>SW131</td> </tr> <tr> <td>Biosheen</td> <td>SW013, SW121</td> </tr> </tbody> </table> <p>Surface water colour was generally recorded as clear; however surface water was also noted as yellowish brown, dark reddish brown, pale yellow and brown. Turbidity ranged from clear to turbid.</p> <p>No other visible or olfactory indications of note were observed during the sampling of the surface water locations. Field observations are presented Table T4, Appendix B.</p>	Observation	Affected locations	Organic odour	SW013, SW111, SW108	Sulfurous odour	SW121	Hydrogen sulphide odour	SW131	Biosheen	SW013, SW121
Observation	Affected locations										
Organic odour	SW013, SW111, SW108										
Sulfurous odour	SW121										
Hydrogen sulphide odour	SW131										
Biosheen	SW013, SW121										
Water Quality Parameters	<p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T4, Appendix B and are summarised below.</p> <ul style="list-style-type: none"> DO results ranged between 0.76 mg/L (SW131) and 9.15 mg/L (SW107) indicating low to well oxygenated conditions. EC ranged from 761 µS/cm (SW016) to 63,190 µS/cm (SW210) indicating fresh to saline conditions. pH ranged from 6.35 (SW125) to 9.38 (SW119) indicating slightly acidic to alkaline conditions. Corrected ORP ranged from 82.9 mV (SW131) to 401.9 mV (SW202) indicating mildly to moderately oxidising conditions. Temperature ranged from 27.2°C (SW113) to 35.9°C (SW107). 										

4.2.2 PFAS Surface Water Analytical Results

Of the 38 surface water samples collected during the 2024 Wet Season Sampling Event, 35 samples reported concentrations of PFAS above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T5, Appendix B** with laboratory analytical reported presented in **Appendix E**.

There were no first-time detections or new exceedances of guideline values detected in surface water during this sampling event. Historical surface water results are presented in **Table T9, Appendix B**.

Surface water results from this sampling event were compared to the historical range of samples collected at each location. **Table 14** identifies the locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS.

Table 14 Locations of New Historical Maximum Concentrations for Surface Water

Compound	Location – Off-Base
PFOA	SW116, SW118, SW206

Surface water sampling results were within the same order of magnitude as historically reported concentrations.

4.3 Sediment

4.3.1 Observations and Field Measurements

Table 15 Sediment Observations

Item	Observations
Access	37 of the 41 sediment locations were accessible during the sampling event with SD106, SD112, SD119 and SD209 not available as described in Section 3.7 .
Field Observations	No visible or olfactory indications of contamination were observed during the sampling of sediment locations. Organic odours were detected at four sediment locations: SD013, SD110, SD111 and SD107. A sulfidic odour was detected at SD131. Sediment logging and observation data are presented in Table T6, Appendix B .

4.3.2 PFAS Sediment Analytical Results

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

Of the 37 sediment samples collected during the 2024 Wet Season Sampling Event, 33 samples reported concentrations of PFAS above the laboratory LOR. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B** with laboratory analytical reported presented in **Appendix E**.

One first-time detection above the LOR was reported at SD203 as shown in **Figure 5, Appendix A**. As the concentration is at the LOR, it is potentially a false positive. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Historical sediment results are presented in **Table T10, Appendix B**. Sediment results from this sampling event were compared to the historical range of samples collected at each location **Table 16** identifies the locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS.

Table 16 Locations of New Historical Maximum Concentrations for Sediment

Compound	Location	
	On-Base	Off-Base
PFOS	-	SD117, SD118, SD203
PFOA	SD132	SD203
Sum of PFOS+PFHxS	-	SD118, SD203

Sediment sampling results were within the same order of magnitude as historically reported concentrations.

5.0 Summary and Next Sampling Event

5.1 Summary of Sampling Event

The 2024 Wet Season Sampling Event was undertaken between 11 and 28 March 2024, and included sampling from:

- 103 groundwater monitoring locations; and
- 37 sediment monitoring locations; and
- 38 surface water monitoring locations.

Table 17 summarises the findings of the sampling event and the recommended actions.

Table 17 Summary of Sampling Event

Item	Comment	Recommended Actions
<u>Groundwater:</u> Access to sampling locations and monitoring well network condition.	Two groundwater monitoring wells were not accessible, both located off-Base: <ul style="list-style-type: none"> • MW238 and MW264 were unable to be sampled due to the road being resurfaced and the well lost/destroyed. 	Remove MW238 and MW264 from the SAQP. Replacement wells should be installed to replace the lost/destroyed wells.
<u>Sediment/Surface Water:</u> Access to sampling locations	Three co-located surface water and sediment sampling locations were unable to be accessed and sampled: <ul style="list-style-type: none"> • SW/SD112 – Unable to be sampled due to drainage channel overgrown with grass and no access to location. • SW/SD106 and SW/SD209 – unable to be sampled due to inaccessible flooded tracks. <p>One sediment sample, SD119, was unable to be collected due to no sediment present in concrete drain.</p>	Ongoing monitoring in accordance with the OMP.
<u>Analytical Results</u>	<u>2024 Wet Season Sampling Event:</u> PFAS were detected above laboratory LOR in: <ul style="list-style-type: none"> • 93 of 103 groundwater samples • 35 of 38 surface water samples • 33 of 37 sediment samples. 	Ongoing monitoring in accordance with the OMP.
<u>First-time detections of PFOS, PFOA or Sum of PFOS+PFHxS</u>	One first-time detection was recorded in off-Base sediment sample SD203 (PFOA). Results were reported at the laboratory LOR and is potentially a false positive.	Ongoing monitoring in accordance with the OMP.
<u>New exceedances of screening criteria for PFOS, PFOA or Sum of PFOS+PFHxS</u>	Two new exceedances of the NEMP (2020) Interim Freshwater and Interim Marine 95% screening criteria for PFOS were recorded at on-Base MW234 and off-Base MW266. Two new exceedances of the NEMP (2020) Drinking water screening criteria were recorded at off-Base MW212 and MW266.	Ongoing monitoring in accordance with the OMP.

5.2 Upcoming Sampling Events

The next biannual sampling event in accordance with the PMAP is scheduled for October 2024.

5.3 Upcoming Ongoing Monitoring Report

The next Ongoing Monitoring Report is scheduled for late 2024 and summarises the results of monitoring undertaken between June 2023 and March 2024.

6.0 References

- AECOM. (2024). *PFAS OMP RAAF Townsville Sampling, Analysis and Quality Plan, Rev 11, updated 27 February 2024.*
- Australian and New Zealand Governments and Australian state and territory governments [ANZG]. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality.*
- Bureau of Meteorology. (2024, April 4). *Rainfall data, weather station 032040.* Retrieved from Climate Data Online.: http://www.bom.gov.au/climate/averages/tables/cw_032040.shtml
- Department of Defence. (2019, as amended July 2021). *Defence Contamination Management Manual.*
- Department of Defence. (2019b). *Routine Environment Water Quality Monitoring Manual.*
- Department of Defence. (2020). *PFAS Management Area Plan - RAAF Townsville.*
- Department of Defence. (May 2021). *PFAS OMP Factual Report Guidance, v2.*
- Department of Health. (2019). *Health Based Guidance Values for PFAS for use in site investigations in Australia, updated September 2019.*
- Heads of Environment Protection Agencies (HEPA). (2020). *PFAS National Environmental Management Plan (NEMP), version 2.0 - January 2020.*
- National Health and Medical Research Council (NHMRC). (2019). *Guidance on PFAS in Recreational Water.*
- NEPC. (1999, as amended May 2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guidance on Site Characterisation.*
- Standards Australia. (1998). *AS/NZS 5667.11-1998: Water Quality - Sampling - Guidance on Sampling of Groundwaters.*

Appendix A

Figures

Legend

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

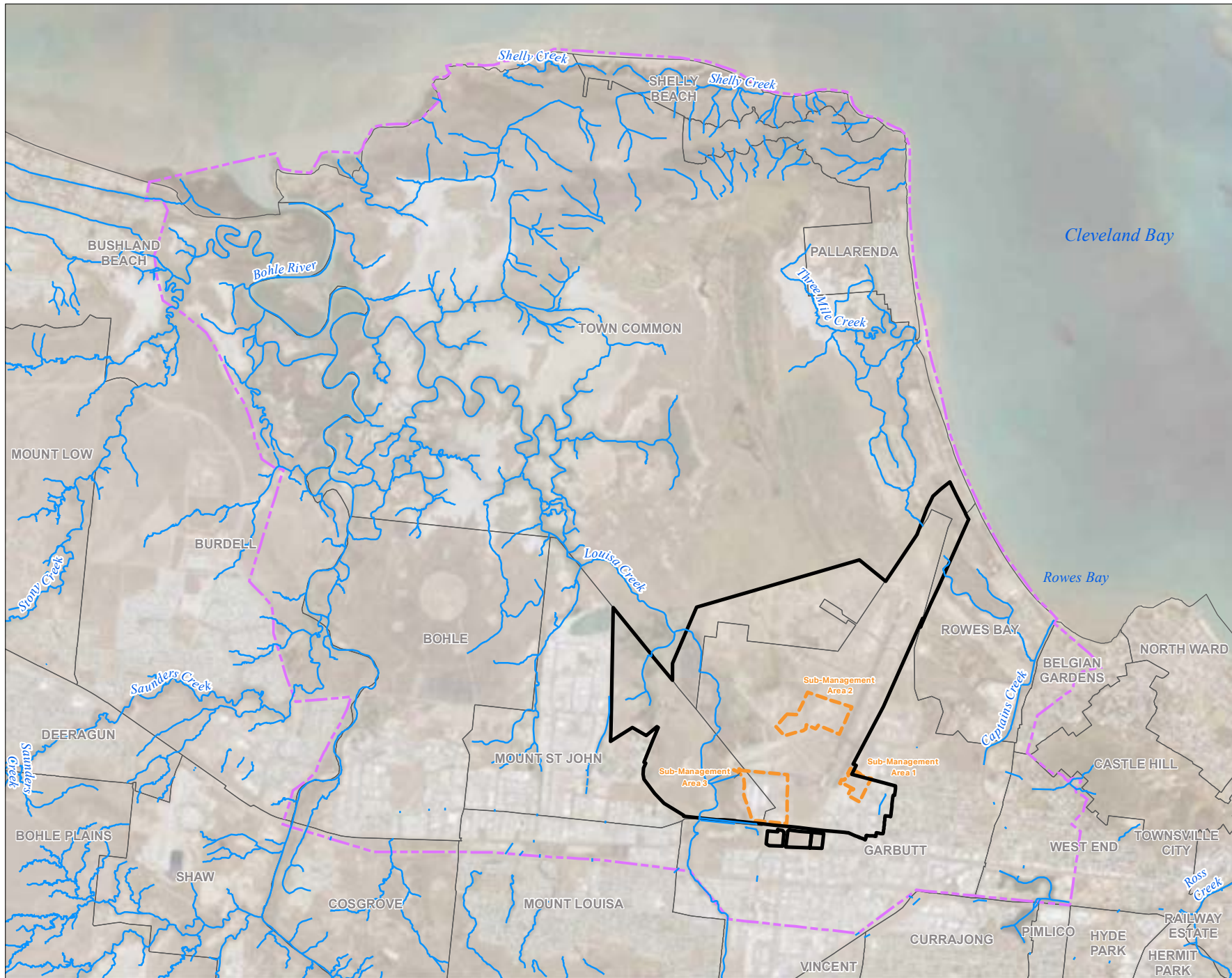


FIGURE 1:
RAAF BASE TOWNSVILLE
LOCATION PLAN

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 PFAS OMP –
 RAAF Base Townsville (0874),
 Wet Season Sampling Factual Report,
 March 2024
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

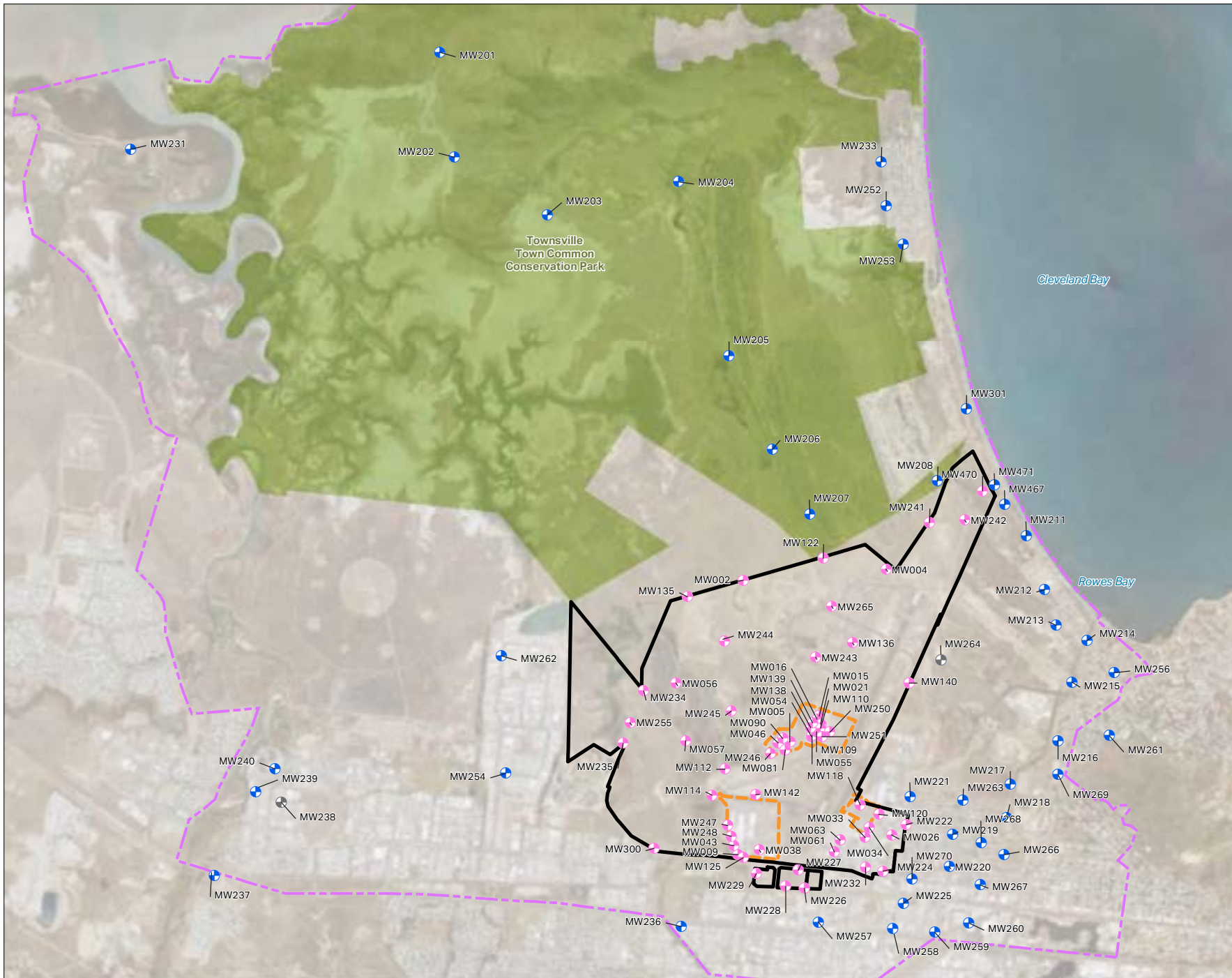
The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- On-base Monitoring Well
- Off-base Monitoring Well
- Lost/ Inaccessible Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP –
RAAF Base Townsville (0874),
Wet Season Sampling Factual Report,
March 2024
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

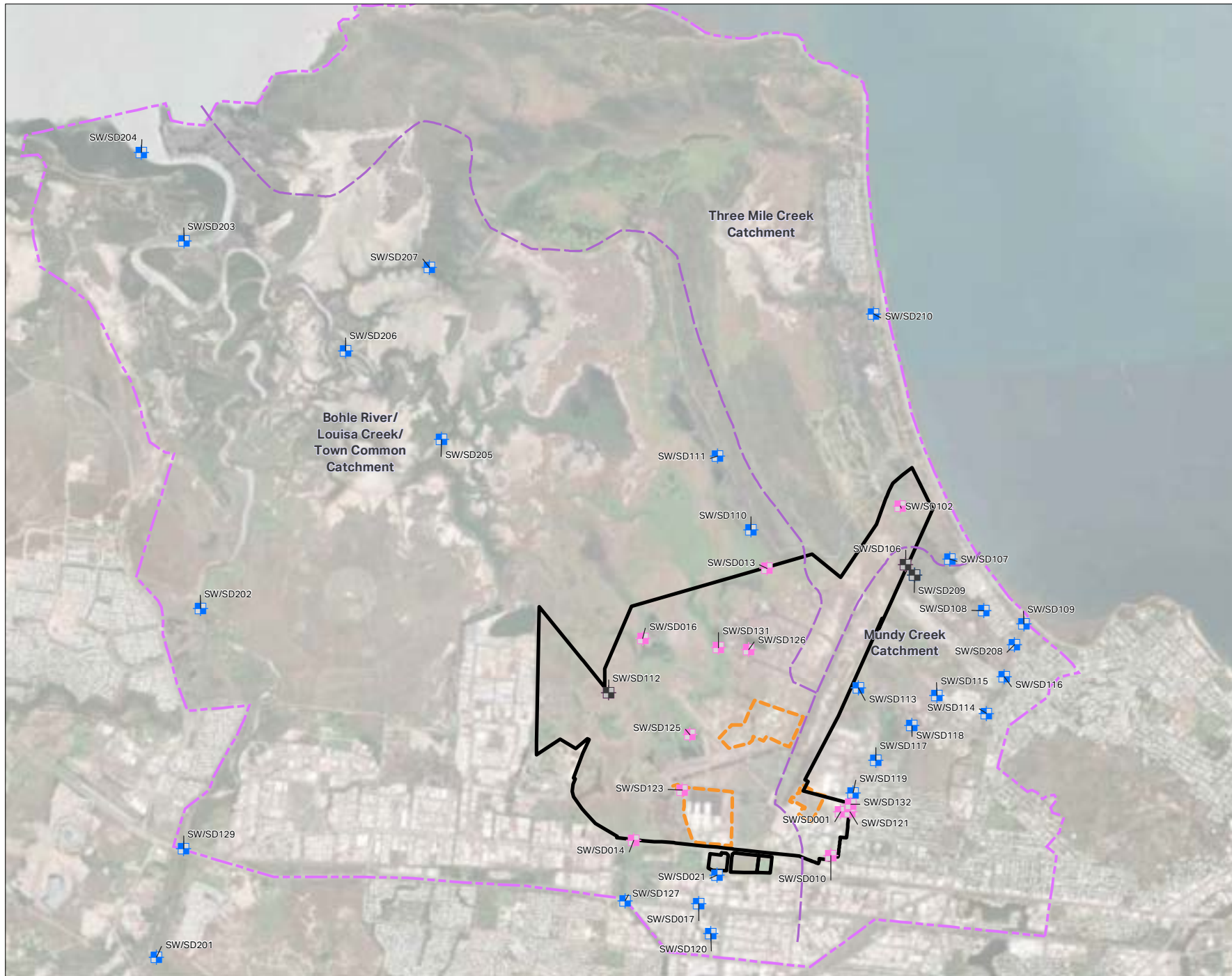
The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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

Legend

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



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP –
RAAF Base Townsville (0874),
Wet Season Sampling Factual Report,
March 2024
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australasia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Lost/Inaccessible Monitoring Well
- Management Area
- Sub-Management Area
- Monitoring Area
- - - Groundwater contour (mAHD)
- Inferred Groundwater Flow Direction

**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS -
WET SEASON -
MARCH 2024**

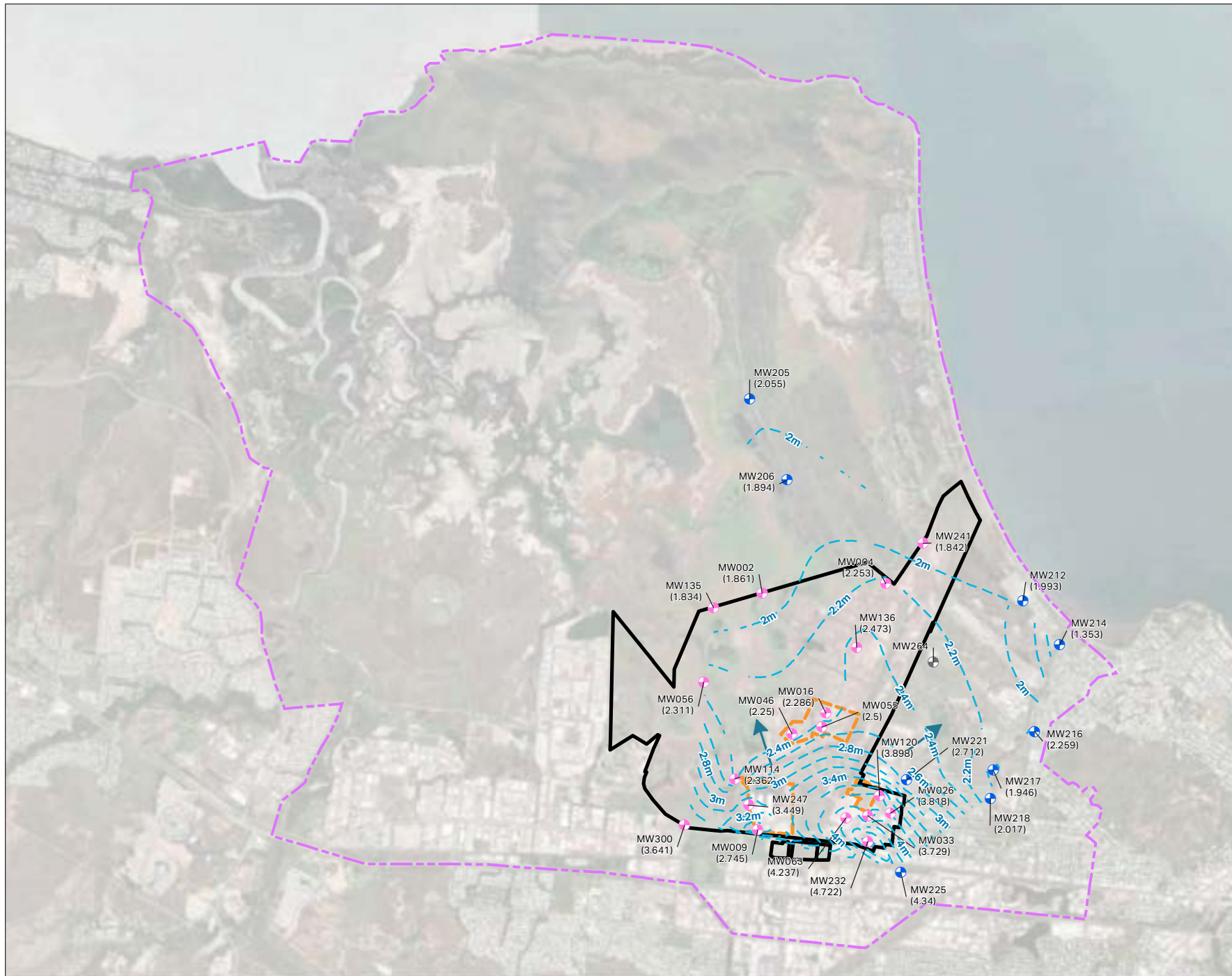
PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP –
RAAF Base Townsville (0874),
Wet Season Sampling Factual Report,
March 2024
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

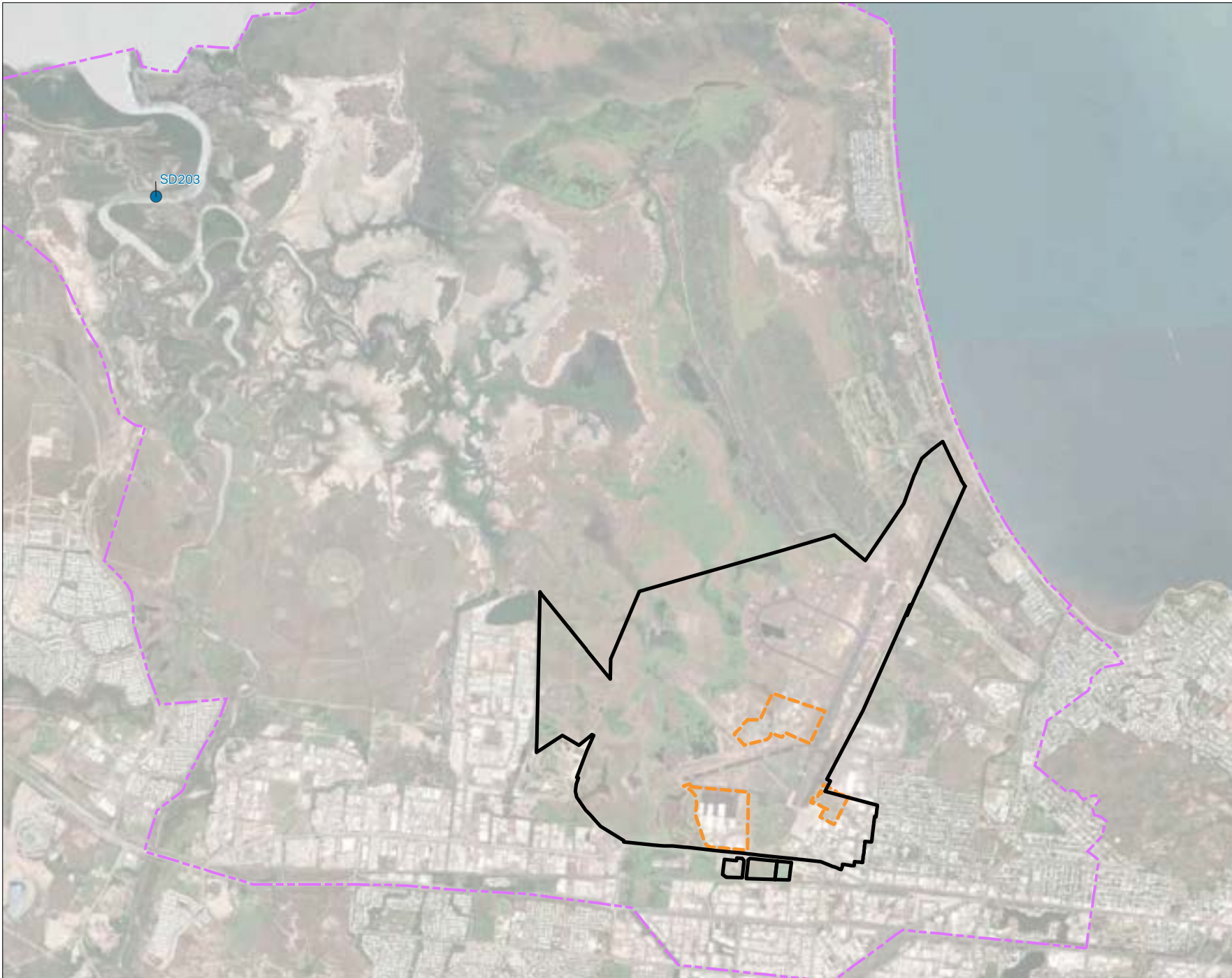
Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright License)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright License). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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





Legend

- Management Area
- Monitoring Area
- Sub-Management Area
- First time detection of PFOA >LOR

FIGURE 5:
FIRST-TIME DETECTION
OF PFOA, PFOS OR SUM
OF PFOS+PFHXS ABOVE
LOR IN SEDIMENT

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 PFAS OMP –
 RAAF Base Townsville (0874),
 Wet Season Sampling Factual Report,
 March 2024
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australis Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



0 500 1,000 m

Legend

Management Area

Monitoring Area

Sub-Management Area

New exceedance of either ecological screening criteria
 for PFOS or drinking water criteria for Sum of PFOS+PFHxS

**FIGURE 6:
NEW EXCEEDANCE OF
ECOLOGICAL SCREENING
CRITERIA FOR PFOS AND
DRINKING WATER CRITERIA
FOR SUM OF PFOS+PFHXS
IN GROUNDWATER**

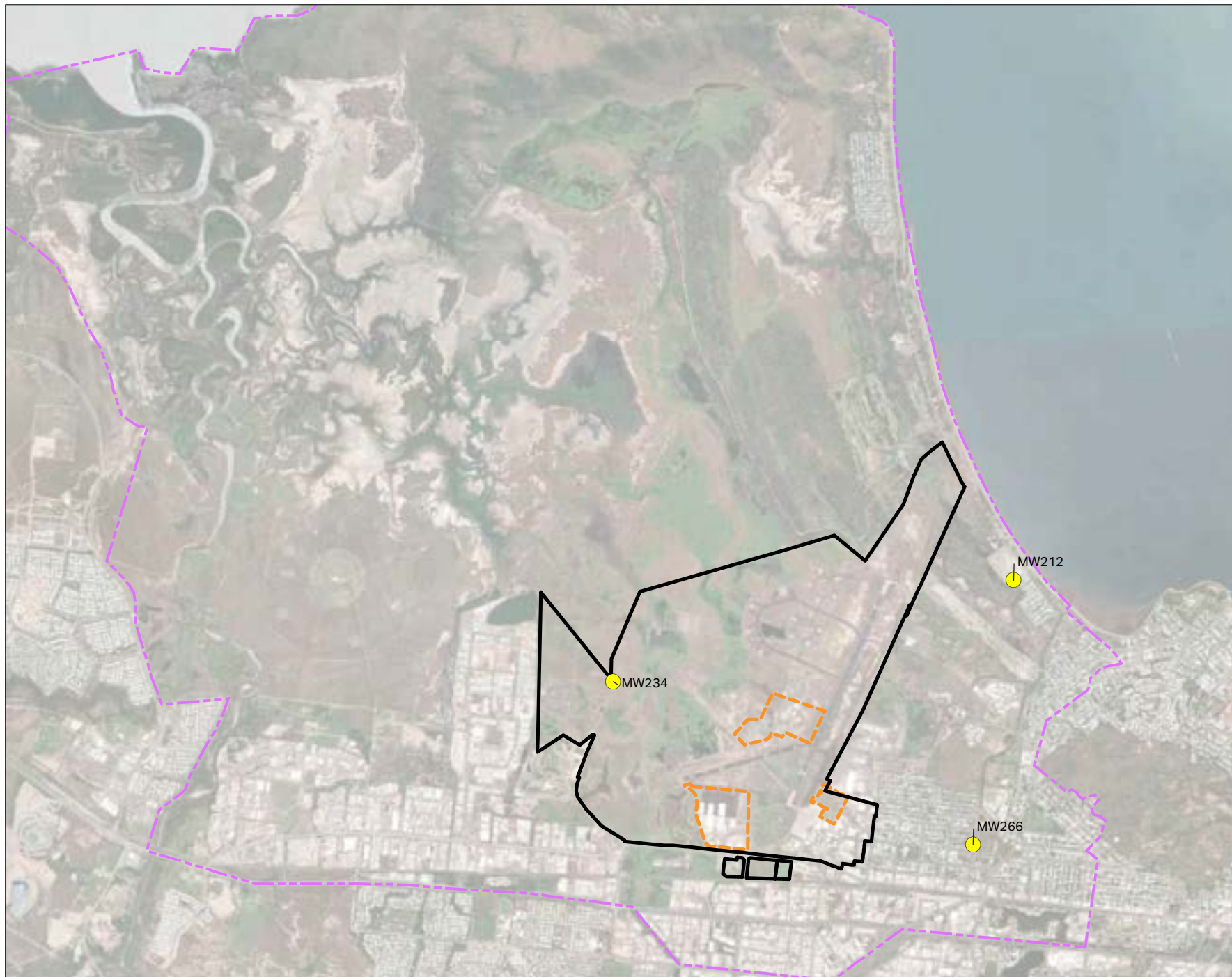
PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP –
RAAF Base Townsville (0874),
Wet Season Sampling Factual Report,
March 2024
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons, Attribution 3.0 International licence © State of Queensland (Department of Natural Resources, Mines and Energy) 2018

The terms of Creative Commons Attribution 3.0 International License (CC BY 3.0) are available from <https://creativecommons.org/licenses/by/3.0/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Natural Resources, Mines and Energy make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content in accordance with clause 5 of the Copyright Licence. AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report.

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



Appendix B

Analytical Tables

T1: Groundwater Gauging

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)		
0874	MW002	14/03/2024	12:00	4.575	0.005	1.866	1.861		
0874	MW004	14/03/2024	12:25	4.913	0.928	3.181	2.253		
0874	MW009	14/03/2024	11:55	4.801	0.775	3.520	2.745		
0874	MW016	14/03/2024	14:15	3.555	1.164	3.450	2.286		
0874	MW026	14/03/2024	15:10	4.802	1.346	5.164	3.818		
0874	MW033	14/03/2024	13:50	3.932	2.131	5.860	3.729		
0874	MW046	14/03/2024	15:30	4.444	0.594	2.844	2.250		
0874	MW055	14/03/2024	14:08	4.924	1.063	3.563	2.500		
0874	MW056	14/03/2024	13:08	5.430	0.644	2.955	2.311		
0874	MW063	14/03/2024	14:15	5.331	0.615	4.852	4.237		
0874	MW114	14/03/2024	15:45	5.216	0.963	3.325	2.362		
0874	MW120	14/03/2024	14:43	5.691	0.651	4.549	3.898		
0874	MW135	14/03/2024	11:25	5.579	0.441	2.275	1.834		
0874	MW136	14/03/2024	15:10	5.660	0.350	2.823	2.473		
0874	MW205	14/03/2024	16:00	4.975	1.184	3.239	2.055		
0874	MW206	14/03/2024	16:05	4.401	1.386	3.280	1.894		
0874	MW212	14/03/2024	16:45	3.920	0.842	2.835	1.993		
0874	MW214	14/03/2024	11:50	4.920	2.310	3.663	1.353		
0874	MW216	14/03/2024	11:30	4.250	1.285	3.544	2.259		
0874	MW217	14/03/2024	11:00	5.770	1.325	3.271	1.946		
0874	MW218	14/03/2024	10:30	5.005	0.891	2.908	2.017		
0874	MW221	14/03/2024	10:10	5.410	1.101	3.813	2.712		
0874	MW225	14/03/2024	09:45	6.824	1.245	5.585	4.340		
0874	MW232	14/03/2024	12:10	4.655	1.045	5.767	4.722		
0874	MW241	14/03/2024	12:45	4.767	1.272	3.114	1.842		
0874	MW247	14/03/2024	11:30	4.105	0.950	4.399	3.449		
0874	MW264	14/03/2024	Lost / Destroyed - Road has been resurfaced since last visit						
0874	MW300	14/03/2024	10:30	6.725	1.429	5.070	3.641		

mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum

T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Sub-management area one																					
0874	MW118	13/03/2024	NA	3.30	15/03/2024	4.601	0.532	4.370	3.838	Good	0.85	578	6.86	67.5	262.1	29.4	Clear	Clear	Rotten egg smell (sulfurous)	No sheen	
Sub-management area two																					
0874	MW005	12/03/2024	NA	6.11	13/03/2024	7.413	0.654	3.922	3.268	Good	0.4	7762	6.7	13.9	209.3	28.6	Low	Clear	No odour	No sheen	
0874	MW015	18/03/2024	NA	2.09	19/03/2024	3.387	1.198	3.343	2.145	Good	1.08	28351	6.43	-29.2	161.8	33	Low	Clear	No odour	No sheen	
0874	MW016	12/03/2024	NA	2.26	14/03/2024	3.555	1.164	3.450	2.286	Good	0.76	11991	6.4	16.4	206.8	33.6	Clear	Clear	No odour	No sheen	
0874	MW021	18/03/2024	NA	0.94	19/03/2024	2.235	1.006	3.301	2.295	Good	0.91	9557	7.19	-158.3	30.9	34.8	Clear	Clear	Slight Organic Odour	No sheen	
0874	MW046	12/03/2024	NA	3.14	14/03/2024	4.444	0.594	2.844	2.250	Good	0.54	9526	7.57	9	202.9	30.1	Clear	Clear	No odour	No sheen	
0874	MW054	12/03/2024	NA	4.28	13/03/2024	5.581	0.995	3.669	2.674	Good	0.75	9211	7.94	3.4	196.3	31.1	Clear	Clear	No odour	No sheen	
0874	MW055	12/03/2024	NA	3.62	13/03/2024	4.924	1.045	3.563	2.518	Good	0.81	2602	7.83	9.9	201.9	32	Low	Clear	No odour	No sheen	
0874	MW081	12/03/2024	NA	3.59	13/03/2024	4.892	0.751	3.408	2.657	Good	0.58	3931	7.4	6.7	200.1	30.6	Low	Clear	No odour	No sheen	
0874	MW090	12/03/2024	NA	1.58	13/03/2024	2.879	0.55	3.303	2.753	Good	1.1	4705	7.65	7.1	200	31.1	Low	Clear	No odour	No sheen	
0874	MW109	18/03/2024	NA	4.60	19/03/2024	5.897	1.155	3.255	2.100	Good	0.97	29778	7.41	-60.9	134	29.1	Low	Light Brown	No odour	No sheen	
0874	MW110	18/03/2024	NA	3.50	19/03/2024	4.798	0.72	2.853	2.133	Good	1.3	49125	6.83	-134.2	58.7	31.1	Low	Light Grey	Hydrogen Sulphide odour	No sheen	
0874	MW138	18/03/2024	3-6	5.50	19/03/2024	6.798	1.533	2.903	1.370	Good	0.72	52845	6.94	-124.7	68.2	31.1	Clear	Clear	No odour	No sheen	
0874	MW139	18/03/2024	3-6	4.62	19/03/2024	5.921	1.127	3.443	2.316	Good	0.81	29363	7.49	-142.8	49.3	31.9	Clear	Clear	No odour	No sheen	
0874	MW246	15/03/2024	1-7	5.72	25/03/2024	7.015	1.074	3.901	2.827	Good	3.11	35724	6.14	141.6	336.2	29.4	Clear	Clear	No odour	No sheen	
0874	MW250	15/03/2024	1-6	3.72	20/03/2024	5.021	1.808	3.916	2.308	Good	8.94	3412	7.43	114.4	308.8	29.6	Clear	Clear	No odour	No sheen	
0874	MW251	13/03/2024	0.7-6.7	5.78	15/03/2024	7.08	1.054	3.440	2.386	Good	1.14	43311	6.52	113.2	305.3	31.9	Clear	Clear	No odour	No sheen	
Sub-management area three																					
0874	MW009	18/03/2024	NA	3.50	19/03/2024	4.801	0.775	3.520	2.745	Good	0.69	31852	6.66	78.1	271	31.1	Clear	Clear	No odour	No sheen	
0874	MW038	18/03/2024	NA	3.29	19/03/2024	4.592	0.575	4.734	4.159	Good	1.08	2801	8.19	-95.8	95.6	32.6	Clear	Clear	No odour	No sheen	
0874	MW043	18/03/2024	NA	4.39	19/03/2024	5.69	0.746	3.613	2.867	Good	0.68	49858	6.72	70.7	263.8	30.9	Low	Clear	No odour	No sheen	
0874	MW114	12/03/2024	NA	3.92	14/03/2024	5.216	0.963	3.325	2.362	Good	0.49	17808	5.77	7	201.5	29.5	Clear	Light Grey	No odour	No sheen	
0874	MW125	11/03/2024	5-11	8.67	13/03/2024	9.971	1.544	4.617	3.073	Good	2.9	8170	7.5	-109.8	84.6	29.6	Medium	Light Brown	Hydrogen Sulphide odour	No sheen	
0874	MW142	13/03/2024	3-6	4.81	15/03/2024	6.105	0.704	3.169	2.465	Good	1.05	60235	6.26	100.9	294.7	30.2	Clear	Clear	No odour	No sheen	
0874	MW247	13/03/2024	0.8-3.5	2.81	19/03/2024	4.105	0.950	4.399	3.449	Good	0.9	894	6.24	101.1	294.9	30.2	Clear	Clear	No odour	No sheen	
0874	MW248	18/03/2024	1-4	2.31	19/03/2024	3.61	0.994	3.943	2.949	Good	1.22	12790	7.41	54.4	247.6	30.8	Low	Clear	No odour	No sheen	
Remaining On-Base																					
0874	MW002	12/03/2024	NA	3.28	14/03/2024	4.575	0.01	1.866	1.856	Good	0.71	30569	6.56	3.8	198.1	29.7	Low	Light Grey	No odour	Biosheen Appearance	
0874	MW004	12/03/2024	NA	3.61	14/03/2024	4.913	0.928	3.181	2.253	Good	1.1	1851	6.38	21.6	214.5	31.1	Clear	Clear	No odour	No sheen	
0874	MW026	11/03/2024	NA	3.50	14/03/2024	4.802	1.346	5.164	3.818	Good	4.41	356	7.99	32.8	223.8	33	Low	Light Grey	No odour	No sheen	
0874	MW033	11/03/2024	NA	2.63	14/03/2024	3.932	2.131	5.860	3.729	Good	5.2	523	8.23	31.8	224.5	31.3	Low	Clear	No odour	No sheen	
0874	MW034	11/03/2024	NA	2.45	13/03/2024	3.751	1.582	5.434	3.852	Good	2.82	10243	7.24	17.5	207.9	33.6	Medium	Light Brown	No odour	No sheen	
0874	MW056	12/03/2024	NA	4.13	14/03/2024	5.430	0.644	2.955	2.311	Good	1.2	38848	6.11	27.9	222.6	29.3	Clear	Clear	No odour	No sheen	
0874	MW057	12/03/2024	NA	5.03	13/03/2024	6.325	0.745	3.114	2.369	Good	3.25	55576	6.98	203.5	399.7	27.8	Clear	Clear	No odour	No sheen	
0874	MW061	18/03/2024	NA	4.20	19/03/2024	5.495	0.755	4.668	3.913	Good	0.54	3447	7.51	-152	38.7	33.3	Clear	Clear	Slight Organic Odour	No sheen	
0874	MW063	11/03/2024	NA	4.03	14/03/2024	5.325	0.615	4.852	4.237	Good	3.5	5935	7.9	65.5	257.5	32	Clear	Clear	Slight Organic Odour	No sheen	
0874	MW112	12/03/2024	NA	4.14	13/03/2024	5.435	1.03	3.300	2.270	Good	3.07	21032	6.25	-14.5	179.5	30	Medium	Light Brown	No odour	No sheen	
0874	MW120	11/03/2024	NA	4.42	14/03/2024	5.715	0.651	2.459	3.898	Good	2.17	1025	7.68	30.3	221.2	33.1	Low	Clear	No odour	No sheen	
0874	MW122	12/03/2024	1.5-4.5	5.10	13/03/2024	6.395	0.651	2.451	1.800	Good	2.46	14675	6.59	236.7	431.7	29	Low	Clear	Rotten egg smell (sulfurous)	No sheen	
0874	MW135	12/03/2024	1.5-4.5	4.28	14/03/2024	5.579	0.441	2.275	1.834	Good	0.69	58730	6.49	7.7	201.6	30.1	Low	Light Grey	No odour	No sheen	
0874	MW136	13/03/2024	NA	4.36	18/03/2024	5.660	0.63	2.823	2.193	Good	2.43	3902	7.74	-74.6	120.3	29.1	Low	Clear	No odour	No sheen	
0874	MW140	15/03/2024	NA	10.72	20/03/2024	12.015	0.719	2.728	2.009	Good	1.05	55533	6.04	47.2	244.7	26.5	Clear	Clear	No odour	No sheen	
0874	MW222	18/03/2024	1.2-8	6.46	21/03/2024	7.76	0.456	4.568	4.112	Good	0.27	3959	6.22	-113.1	82.1	28.8	Clear	Clear	No odour	No sheen	
0874	MW224	11/03/2024	2.2-8.2	6.50	13/03/2024	7.795	0.798	5.001	4.203	Good	2.72	12201	7.53	42.3	235	31.3	Low	Clear	No odour	No sheen	
0874	MW226	18/03/2024	1.5-6.5	5.08	21/03/2024	6.38	0.634	5.172	4.538	Good	0.4	23222	6.35	-157.1	38.2	28.7	Turbid	Light Brown	Rotten egg smell (sulfurous)	No sheen	
0874	MW227	18/03/2024	1-8	6.53	20/03/2024	7.83	0.623	4.693	4.070	Good	1.22	18138	6.66	-84.4	110.5	29.1	Low	Clear	No odour	No sheen	
0874	MW228	18/03/2024	1.5-8	6.38	21/03/2024	7.68	0.738	4.944	4.206	Good	0.26	18360	6.6	-75.9	119	29.1	Low	Clear	No odour	No sheen	
0874	MW229	18/03/2024	1-9.7	8.60	21/03/2024	9.9	1.604	5.387	3.783	Good	0.19	31855	6.05	7.4	202.3	29.1	Clear	Clear	No odour	No sheen	
0874	MW232	11/03/2024	1-5	3.36	14/03/2024	4.655	1.045	5.767	4.722	Good	3.86	4172	7.97	-29.3	164.6	30.1	Medium	Light Brown	No odour	No sheen	
0874	MW234	18/03/2024	1-6	6.01	20/03/2024	7.31	1.367	3.216	1.849	Good	0.33	85213	6.7	-18.1	176.6	29.3	Low	Light Grey	No odour	No sheen	
0874	MW235	18/03/2024	1-8	5.29	20/03/2024	6.59	1.447	3.380	1.933	Good	1.7	28740	7.1	13.1	205.4	31.7	Clear	Clear	No odour	No sheen	
0874	MW241	12/03/2024	1-4	3.47	14/03/2024	4.767	1.272	3.114	1.842	Good	1.13	13554	6.92	26.5	220	30.5	Clear	Clear	No odour	No sheen	
0874	MW242	12/03/2024	1-4	3.32	15/03/2024	4.623	1.334	3.081	1.747	Good	0.65	11015	7.4	70.9	263.4	31.5	Clear	Clear	Rotten egg smell (sulfurous)	No sheen	
0874	MW243	19/03/2024	1-7	6.28	22/03/2024	7.58	1.208	3.126	1.918	Good	2.54	53669	6.72	228.8	423.2	29.6	Low	Yellow / Brown	No odour	No sheen	
0874	MW244	18/03/2024	0.7-4.7	3.40	19/03/2024	4.7	1.005	2.273	1.268	Good	0.71	3009	7.24								

T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Off-Base																					
0874	MW201	21/03/2024	2-5.2	4.53	22/03/2024	5.833	1.396	3.132	1.736	Good	4.11	37052	7.29	51.5	246.7	28.8	Low	Light Brown	No odour	No sheen	
0874	MW202	21/03/2024	2-5	4.67	22/03/2024	5.972	0.832	2.904	2.072	Good	2.64	82753	6.97	117.2	313.2	28	Low	Light Brown	No odour	No sheen	
0874	MW203	21/03/2024	1-4	3.45	22/03/2024	4.745	1.239	2.785	1.546	Good	3.19	77492	6.85	-94	100.7	29.3	Low	Light Grey	Organic Odour	No sheen	
0874	MW204	19/03/2024	1.2-4.2	3.69	21/03/2024	4.992	2.568	4.759	2.191	Good	3.77	1425	5.89	85.37	278.97	30.4	Low	Clear	No odour	No sheen	
0874	MW205	14/03/2024	1.2-4.2	3.68	19/03/2024	4.975	1.225	3.239	2.014	Good	2.67	9978	6.12	-43.1	187.6	27.3	Low	Clear	No odour	No sheen	
0874	MW206	22/03/2024	1-4	3.13	25/03/2024	4.43	1.154	3.280	2.126	Good	2.86	5568	3.61	199	395.3	27.7	Clear	Clear	No odour	No sheen	
0874	MW207	19/03/2024	2-6	5.04	21/03/2024	6.344	2.069	3.825	1.756	Good	2.56	20898	3.21	368.6	562.8	29.8	Low	Clear	No odour	No sheen	
0874	MW208	20/03/2024	1-4	3.35	21/03/2024	4.65	2.218	4.060	1.842	Good	1.42	1454	6.9	-85.2	108.4	30.4	Low	Light Brown	No odour	No sheen	
0874	MW211	14/03/2024	2-6	3.66	21/03/2024	4.961	3.233	4.990	1.757	Good	3.06	1125	7.07	-14.4	179	30.6	Low	Light Brown	No odour	No sheen	
0874	MW212	14/03/2024	1-4	2.62	21/03/2024	3.920	0.913	2.835	1.922	Good	1.4	1743	6.64	-134.3	60.9	28.8	Medium	Light Brown	No odour	No sheen	
0874	MW213	20/03/2024	1-4.5	3.63	21/03/2024	4.932	1.877	3.762	1.885	Good	1.4	1856	5.69	-39.2	155.3	29.5	Low	Grey	Slight Organic Odour	No sheen	
0874	MW214	18/03/2024	1-5	3.62	20/03/2024	4.920	2.23	3.663	1.433	Good	1.82	42716	6.67	20.8	214.2	30.6	Clear	Clear	No odour	No sheen	
0874	MW215	20/03/2024	1-7	4.95	21/03/2024	6.25	1.569	3.269	1.700	Good	2.09	1011	6.5	-65.3	129.3	29.4	Clear	Clear	Organic Odour	No sheen	
0874	MW216	14/03/2024	1-4.5	2.95	19/03/2024	4.250	1.285	3.544	2.259	Good	4.17	2502	6.69	71.6	265.1	30.5	Clear	Clear	No odour	No sheen	
0874	MW217	14/03/2024	2-6	4.47	19/03/2024	5.770	1.391	3.271	1.880	Good	3.41	38571	7.17	53.9	245.7	32.2	Medium	Light Brown	No odour	No sheen	
0874	MW218	14/03/2024	2-6	3.71	19/03/2024	5.005	0.935	2.908	1.973	Good	2.78	40131	6.72	108.8	301.1	31.7	Medium	Brown	No odour	No sheen	
0874	MW219	19/03/2024	3-11	7.69	20/03/2024	8.985	1.885	4.408	2.523	Good	2.69	7741	7.2	27.5	221.3	30.2	Low	Light Brown	No odour	No sheen	
0874	MW220	19/03/2024	1-6.5	4.92	20/03/2024	6.216	0.854	4.183	3.329	Good	2.29	1229	7.09	-69.1	123.5	31.4	Low	Light Brown	Organic Odour	No sheen	
0874	MW221	14/03/2024	1-6	4.11	19/03/2024	5.410	1.205	3.813	2.608	Good	2.37	3697	6.69	-57.4	134.4	32.2	Medium	Grey / Brown	Hydrogen Sulphide odour	No sheen	
0874	MW225	14/03/2024	1-7	5.52	19/03/2024	6.824	1.385	5.585	4.200	Good	3.13	2745	7.59	91.3	284.5	30.8	Clear	Clear	No odour	No sheen	
0874	MW231	15/03/2024	1-5	4.30	19/03/2024	5.6	1.282	3.013	1.731	Good	0.81	23555	7.18	-129.5	64.3	30.2	Low	Grey	Slight Organic Odour	No sheen	
0874	MW233	19/03/2024	1.5-3.9	2.70	21/03/2024	4.002	1.282	2.900	1.618	Good	6.15	291.3	7.29	17.4	208.9	32.5	Clear	Clear	No odour	No sheen	
0874	MW236	14/03/2024	2-7	3.92	18/03/2024	5.219	2.013	5.441	3.428	Good	2.27	862	7.62	-57.1	137.1	29.8	Low	Light Yellow	No odour	No sheen	
0874	MW237	19/03/2024	1-6	5.14	21/03/2024	6.44	1.937	8.050	6.113	Good	0.94	9000	6.95	31.7	226.3	29.4	Low	Light Brown	No odour	No sheen	
0874	MW238									Lost / Destroyed - Road has been resurfaced since last visit											
0874	MW239	19/03/2024	1-7	4.72	21/03/2024	6.02	2.093	6.508	4.415	Good	1.74	2143	6.92	-116	77.6	30.4	Low	Light Brown	Slight Organic Odour	No sheen	
0874	MW240	19/03/2024	1-6	4.59	21/03/2024	5.89	1.344	6.561	5.217	Good	1.62	1133	7.87	1.4	193.9	31.5	Low	Light Brown	Slight Organic Odour	No sheen	
0874	MW252	19/03/2024	1.5-4	2.52	21/03/2024	4	1.457	3.038	1.581	Good	1.65	963	6.91	44.2	234.7	33.5	Low	Light Yellow / Brown	Slight Organic Odour	No sheen	
0874	MW253	14/03/2024	1.5-4	2.51	19/03/2024	3.813	2.169	4.100	1.931	Good	3.28	7962	7.21	148.2	341.1	31.1	Low	Clear	No odour	No sheen	
0874	MW254	14/03/2024	2-7.5	6.08	18/03/2024	7.378	0.846	3.667	2.821	Good	2.19	72875	6.7	103.6	296.8	30.8	Low	Clear	No odour	No sheen	
0874	MW256	14/03/2024	1.5-5	3.58	18/03/2024	4.875	0.623	5.562	4.939	Good	2.35	1604	7.27	86.5	279.4	31.1	Medium	Grey / Brown	No odour	No sheen	
0874	MW257	14/03/2024	1-4	3.49	18/03/2024	4.79	1.25	5.865	4.615	Good	2.9	1775	7.98	67	259.4	31.6	Clear	Clear	No odour	No sheen	
0874	MW258	14/03/2024	1-5	3.61	18/03/2024	4.913	2.398	6.104	3.706	Good	4.7	3425	7.39	123.1	316.4	30.7	Low	Light Grey	No odour	No sheen	
0874	MW259	14/03/2024	1.5-5	2.58	18/03/2024	3.875	1.842	4.664	2.822	Good	3.85	1489	7.42	87.3	279.1	32.2	Clear	Clear	No odour	No sheen	
0874	MW260	14/03/2024	1.5-5.1	3.52	18/03/2024	4.823	1.708	4.312	2.604	Good	3.06	3593	7.43	83.1	274.2	32.9	Clear	Clear	No odour	No sheen	
0874	MW261	19/03/2024	4.2-10.2	8.77	22/03/2024	10.069	6.923	16.498	9.575	Good	1.67	662	5.8	90.9	286.2	28.7	Clear	Clear	No odour	No sheen	
0874	MW262	14/03/2024	1.5-5.5	4.00	18/03/2024	5.297	1.121	3.643	2.522	Good	1.67	662	5.8	90.9	283	31.9	Clear	Clear	No odour	No sheen	
0874	MW263	19/03/2024	1.5-4	2.28	20/03/2024	3.575	0.715	3.939	3.224	Good	1.54	118115	4.54	173.5	363.8	33.7	Low	Light Brown	No odour	No sheen	
0874	MW264									Lost / Destroyed - Road has been resurfaced since last visit											
0874	MW266	20/03/2024	1.5-5	3.73	22/03/2024	5.034	1.215	3.228	2.013	Good	2.55	2377	7.17	-74.7	120.5	28.8	Medium	Brown	No odour	No sheen	
0874	MW267	19/03/2024	1.5-5	3.36	20/03/2024	4.662	1.644	4.134	2.490	Good	2.22	1716	6.67	-67	127.5	29.5	Low	Brown	No odour	No sheen	
0874	MW268	14/03/2024	1.5-4.9	2.94	20/03/2024	4.24	1.448	3.626	2.178	Good	0.47	2791	6.77	-181.3	11.7	31	Turbid	Grey	Rotten egg smell (sulfurous)	No sheen	
0874	MW269	19/03/2024	1.5-5	3.73	20/03/2024	5.03	1.711	5.456	3.745	Good	6.32	284.8	6.31	119.6	310.3	33.3	Low	Light Brown	No odour	No sheen	
0874	MW270	14/03/2024	1.5-5	4.15	18/03/2024	5.453	0.699	5.019	4.320	Good	2.56	16120	6.82	105	297.2	31.8	Low	Clear	No odour	No sheen	
0874	MW301	14/03/2024	2-5	2.05	19/03/2024	3.354	2.148	3.940	1.792	Good	6.78	1112	7.68	64.9	257.7	31.2	Low	Clear	No odour	No sheen	
0874	MW467	20/03/2024	NA	3.17	21/03/2024	4.465	1.492	3.494	2.002	Good	1.01	589	7.3	36.7	231.4	29.3	Low	Light Brown	No odour	No sheen	
0874	MW471	14/03/2024	NA	3.10	21/03/2024	4.397	2.206	NA	NA	Good	1.75	542	7.09	-103.6	90.3	30.1	Low	Light Brown	No odour	No sheen	

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - Microsiemens per centimetre
 mV - millivolt
 °C - degrees Celsius
 "*" denotes no data recorded/data lost

T3: Groundwater PFAS Analytical Results

Per- and Poly-fluoroalkyl Substances

	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)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSEA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSEA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDoDA)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Sum of PFHxS and PFOS	Sum of PFAS		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																

Location ID	Sample ID	Report Num	Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSEA	EtFOSE	FOSA	MeFOSA	MeFOSEA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFHxS and PFOS	Sum of PFAS									
Sub-Management Area One				MW118	0874 MW118	240315	ET2401734	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.17	0.2	<0.02	<0.02	<0.02	0.02	<0.02	0.19	0.21	0.12	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.39	0.03	0.6	1.39
Sub-Management Area Two				MW005	0874 MW005	240313	ET2401733	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	30.9	8.2	<0.04	<0.04	<0.04	11.4	33.1	117	618	16.1	41.9	<0.09	<0.04	<0.04	0.17	448	20.2	1070	1340
Sub-Management Area Three				MW009	0874 MW009	240319	ET2401786	19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.69	0.3	<0.02	<0.02	<0.02	0.52	1.54	4.27	14.7	0.69	1.83	<0.05	<0.02	<0.02	<0.02	29.3	1.73	44	57.2
Remaining On-Base				MW002	0874 MW002	240314	ET2401734	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.1	<0.02	<0.02	<0.02	0.1	0.1	1.48	3.39	0.29	0.78	<0.05	<0.02	<0.02	<0.02	1.23	0.12	4.62	8.56

T4: Surface Water Field Parameters

Property ID	Sample ID	Field ID	Sampling Event	Sample Date	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
On-Base															
Bohle River/Louisa Creek/Town Common															
0874	SW013	0874 SW013 240320	Wet season	20/03/2024	2.91	3039	7.29	45.5	238.3	31.2	Low	Dark Reddish Brown 5YR 3/3	Slight Organic Odour	Biosheen Appearance	
0874	SW014	0874 SW014 240320	Wet season	20/03/2024	0.81	1527	7.32	23.9	218.9	29	Low	Clear	No odour	No sheen	
0874	SW016	0874 SW016 240320	Wet season	20/03/2024	2.97	761	7.01	23.9	218.1	29.8	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW112	0874 SW112	Wet season									No Access - drainage channel overgrown with grass, no access to surface water			
0874	SW123	0874 SW123 240320	Wet season	20/03/2024	3.32	2183	7.24	77.6	271.1	30.5	Clear	Pale yellow 5Y 8/3	No odour	No sheen	
0874	SW125	0874 SW125 240320	Wet season	20/03/2024	2.72	3811	6.35	77.3	268.9	32.4	Turbid	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW126	0874 SW126 240328	Wet season	28/03/2024	2.29	791	7.03	190.8	386.8	28	Clear	Dark Reddish Brown 5YR 3/3	No odour	No sheen	
0874	SW131	0874 SW131 240320	Wet season	20/03/2024	0.76	1171	6.67	-112.7	82.9	28.4	Low	Yellowish Brown 10YR 5/6	Hydrogen Sulphide odour	No sheen	
Mundy Creek															
0874	SW001	0874 SW001 240320	Wet season	20/03/2024	6.89	3797	8.81	46.4	237.5	32.9	Low	Clear	No odour	No sheen	
0874	SW010	0874 SW010 240320	Wet season	20/03/2024	3.68	3337	7.62	77.3	268.8	32.5	Low	Clear	No odour	No sheen	
0874	SW106	0874 SW106	Wet season									Flooded tracks, unable to access sampling point			
0874	SW121	0874 SW121 240328	Wet season	28/03/2024	2.12	814	6.4	-52.5	143.8	27.7	Medium	Dark Reddish Brown 5YR 3/3	Rotten egg smell	Biosheen Appearance	
0874	SW132	0874 SW132 240320	Wet season	20/03/2024	8.82	3452	9.28	35.8	225.1	34.7	Low	Clear	No odour	No sheen	
Three Mile Creek															
0874	SW102	0874 SW102 240320	Wet season	20/03/2024	7.82	10151	7.28	149.1	344	29.1	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
Off-Base															
Bohle River/Louisa Creek/Town Common															
0874	SW017	0874 SW017 240311	Wet season	11/03/2023	1.82	1698	7.19	17.7	212.4	29.3	Low	Clear	No odour	No sheen	
0874	SW021	0874 SW021 240311	Wet season	11/03/2024	2.6	1570	7.23	42	236.5	29.5	Low	Clear	No odour	No sheen	
0874	SW110	0874 SW110 240319	Wet season	19/03/2024	6.7	3292	7.97	-11.4	180.4	32.2	Turbid	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW111	0874 SW111 240319	Wet season	19/03/2024	6.28	1768	7.11	67.5	258.9	32.6	Low	Yellowish Brown 10YR 5/6	Slight Organic Odour	No sheen	
0874	SW120	0874 SW014 240320	Wet season	20/03/2024	0.81	1527	7.32	23.9	218.9	29	Low	Clear	No odour	No sheen	
0874	SW127	0874 SW127 240311	Wet season	11/03/2024	1.53	788	7.16	28	223.3	28.7	Low	Clear	No odour	No sheen	
0874	SW129	0874 SW129 240311	Wet season	11/03/2024	4.59	6197	7.08	42.9	238.1	28.8	Medium	Brown 7.5YR 4/3	No odour	No sheen	
0874	SW201	0874 SW201 240319	Wet season	19/03/2024	6.96	2400	8.08	7.6	199.9	31.7	Low	Clear	No odour	No sheen	
0874	SW202	0874 SW202 240315	Wet season	15/03/2024	8.66	14096	7.51	208.8	401.9	30.9	Medium	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW203	0874 SW203 240315	Wet season	15/03/2024	7.1	31720	7.9	93.9	286.1	31.8	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW204	0874 SW204 240315	Wet season	15/03/2024	6.69	36538	7.86	111.5	303.4	32.1	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW205	0874 SW205 240315	Wet season	15/03/2024	3.86	2444	7.13	128.5	322	30.5	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW206	0874 SW206 240315	Wet season	15/03/2024	5.15	9670	7.21	167.1	360.3	30.8	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW207	0874 SW207 240315	Wet season	15/03/2024	6.25	22253	7.52	117.6	309.5	32.1	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
Mundy Creek															
0874	SW108	0874 SW108 240319	Wet season	19/03/2024	7.87	12567	8.57	82.1	273	33.1	Medium	Yellowish Brown 10YR 5/6	Organic Odour	No sheen	
0874	SW109	0874 SW109 240320	Wet season	20/03/2024	4.4	25208	7.9	58.4	252.1	30.3	Low	Clear	No odour	No sheen	
0874	SW113	0874 SW112 240311	Wet season	11/03/2024	2.68	2996	6.86	32	228.8	27.2	Low	Clear	No odour	No sheen	
0874	SW114	0874 SW114 240311	Wet season	11/03/2024	4.48	1597	7.26	29.9	223.9	30	Low	Clear	No odour	No sheen	
0874	SW115	0874 SW115 240311	Wet season	11/03/2024	5.55	7472	7.36	40.4	234.6	29.8	Low	Pale yellow 5Y 8/3	No odour	No sheen	
0874	SW116	0874 SW116 240311	Wet season	11/03/2024	4.33	13723	7.18	39.8	234.3	29.5	Low	Clear	No odour	No sheen	
0874	SW117	0874 SW117 240311	Wet season	11/03/2024	6.13	5637	7.56	50.4	241.4	33	Low	Clear	No odour	No sheen	
0874	SW118	0874 SW118 240311	Wet season	11/03/2024	3.51	4180	7.3	71.7	266.4	29.3	Low	Clear	No odour	No sheen	
0874	SW119	0874 SW119 240311	Wet season	11/03/2024	7.41	2036	9.38	26.8	220.5	30.3	Low	Clear	No odour	No sheen	
0874	SW208	0874 SW208 240320	Wet season	20/03/2024	5.57	24119	7.46	19.3	209.5	33.8	Low	Yellowish Brown 10YR 5/6	No odour	No sheen	
0874	SW209	0874 SW209	Wet season									Flooded tracks, unable to access sampling point			
Three Mile Creek															
0874	SW107	0874 SW107 240320	Wet season	20/03/2024	9.15	5343	9.04	40.2	228.3	35.9	Low	Clear	No odour	No sheen	
0874	SW210	0874 SW210 240319	Wet season	19/03/2024	5.64	63190	7.6	-54.7	137.1	32.2	Low	Clear	No odour	No sheen	

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celcius
 "-" denotes no data recorded/data lost

T5: Surface Water PFAS Analytical Results

		Per- and Poly-fluoroalkyl Substances																																	
		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)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide acetic acid (EIFOSAA)	N-Ethyl perfluorooctane sulfonamide ethanol (EFOSE)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamide acetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamide ethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDOA)	Perfluorodecanoic acid (PFHpA)	Perfluorodecanoic acid (PFHpS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	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		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																			
PFAS NEMP 2020 Recreational Water																																			
Location ID	Sample ID	Date																																	
On Base																																			
Bohle River/Louisa Creek/Town Common																																			
SW013	0874 SW013 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.01	0.23	0.35	
SW014	0874 SW014 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.07	0.07
SW016	0874 SW016 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.07	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.18	<0.01	0.25	0.25	
SW123	0874 SW123 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	4.48	0.9	<0.02	<0.02	<0.02	<0.02	0.77	3.58	6.4	24.7	1.41	5.75	<0.05	<0.02	<0.02	<0.02	0.02	27.5	1.75	52.2	77.3		
SW125	0874 SW125 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	<0.1	<0.02	0.03	<0.02	0.14	0.4	1.42	6.59	0.25	0.77	<0.05	<0.02	<0.02	<0.02	<0.02	11.4	0.28	18	21.8			
SW126	0874 SW126 240328	28/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	0.1	<0.02	0.03	<0.02	0.06	0.1	0.61	1.74	0.16	0.3	<0.05	<0.02	<0.02	<0.02	<0.02	2.59	0.11	4.33	6.09			
SW131	0874 SW131 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	<0.1	<0.02	<0.02	<0.02	0.06	0.12	0.61	2.29	0.12	0.27	<0.05	<0.02	<0.02	<0.02	<0.02	2.47	0.13	4.76	6.3			
Mundy Creek																																			
SW001	0874 SW001 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	3.72	1.1	<0.02	0.18	<0.02	1.89	2.24	9.73	21.2	1.82	6	<0.05	<0.02	<0.02	<0.02	0.08	48.5	4.08	69.7	100			
SW010	0874 SW010 240320	20/03/2024	<0.05	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.25	0.09	0.6	1.65	0.37	0.26	<0.05	<0.02	<0.02	<0.02	0.07	2.4	0.27	4.05	6.44			
SW121	0874 SW121 240328	28/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.1	<0.02	<0.02	<0.02	0.04	0.04	0.38	1.79	0.12	0.32	<0.05	<0.02	<0.02	<0.02	<0.02	0.53	0.04	2.32	3.76			
SW132	0874 SW132 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	4.88	1.2	<0.02	0.02	<0.02	2.15	2.27	10.8	25.7	2.25	6.54	<0.05	<0.02	<0.02	<0.02	0.04	26.2	4.44	51.9	86.5			
Three Mile Creek																																			
SW102	0874 SW102 240320	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	<0.1	<0.02	<0.02	<0.02	0.03	0.04	0.39	1.84	0.09	0.28	<0.05	<0.02	<0.02	<0.02	0.64	0.04	2.48	3.7				
Off-Base																																			
Bohle River/Louisa Creek/Town Common																																			
SW017	0874 SW017 230311	11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.07	0.07			
SW021	0874 SW021 240311	11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.21	0.02	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.09	0.01	0.3	0.48			
SW110	0874 SW110 240319	19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.31	<0.1	<0.02	<0.02	<0.02	0.08	0.13	0.72	2.5	0.15	0.33	<0.05	<0.02	<0.02	<0.02	<0.02	2.84	0.13	5.34	7.19			
SW111	0874 SW111 240319	19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.06	0.08	0.6	1.91	0.14	0.25	<0.05	<0.02	<0.02	<0.02	<0.02	1.82	0.1	3.73	5.22			
SW120	0874 SW120 240311	11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.08			
SW127	0874 SW127 240311	11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02			
SW129	0874 SW129 240311	11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
SW201	0874 SW201 240319	19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
SW202	0874 SW202 240315	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.08			
SW203	0874 SW203 240315	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.14	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.26	0.33			
SW204	0874 SW204 240315	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.19	0.23			
SW205	0874 SW205 240315	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	0.02	0.23	0.32			
SW206	0874 SW206 240315	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.02	0.15	0.54	0.03	0.05	<0.05	<0.02	<0.02	<0.02	0.57	0.03	1.11	1.49			
SW207	0874 SW207 240315	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.33														

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle River/Louisa Creek/Town Common				
0874	SD013	20/03/2024	Clayey SAND, loose, light gery, coarse grained, low plasticity, wet.	Slight organic odour
0874	SD014	20/03/2024	Silty GRAVEL, loose, dark grey, coarse subangular gravels, dark grey fine silt, wet. Organic matter.	No odour
0874	SD016	20/03/2024	Gravelly CLAY, soft, low plasticity, coarse subangular gravels, saturated.	No odour
0874	SD112		No Access - drainage channel overgrown with grass, no access to sediment	
0874	SD123	20/03/2024	Clayey SAND, loose, light yellow/grey, coarse grained sand, low plasticity, wet.	No odour
0874	SD125	20/03/2024	CLAY, soft, light grey, low plasticity, wet. Organic matter.	No odour
0874	SD126	28/03/2024	CLAY, soft, dark grey, high plasticity, moist. Organic matter	No odour
0874	SD131	20/03/2024	CLAY, soft, light grey, low plasticity, wet. Organic matter.	Sulfidic odour
Mundy Creek				
0874	SD001	20/03/2024	SAND, loose, dark grey with light orange/white inclusions, coarse grained, wet.	No odour
0874	SD010	20/03/2024	CLAY, soft, light grey, low plasticity, wet. Organic matter.	No odour
0874	SD106		Flooded tracks, unable to access sampling point	
0874	SD121	28/03/2024	Gravelly, CLAY, loose, grey, medium plasticity, medium grained gravel, high organic content, wet	No odour
0874	SD132	20/03/2024	SAND, loose, light yellow, coarse grained, wet. Organic matter	No odour
Three Mile Creek				
0874	SD102	20/03/2024	SILT, loose, dark grey/black, fine silt, wet. Organic material, shels.	No odour
Off-Base				
Bohle River/Louisa Creek/Town Common				
0874	SD017	11/03/2024	Gravelly SAND, loose, grey, with silt.	No odour
0874	SD021	11/03/2024	Silty SAND, loose, brown, fine to medium sand.	No odour
0874	SD110	19/03/2024	SILT, loose, dark brown, high plasticity, wet. Organic material.	Organic odour
0874	SD111	19/03/2024	SILT, loose, dark brown, high plasticity, wet. Organic material.	Organic odour
0874	SD120	11/03/2024	Silty CLAY, soft, brown, low to medium plasticity.	No odour
0874	SD127	11/03/2024	Silty CLAY, soft, brown, low plasticity with organic matter.	No odour
0874	SD129	11/03/2024	Silty CLAY, dark brown, low plasticity.	No odour
0874	SD201	19/03/2024	Silty SAND, loose, light brown, fine grained sand, wet. Organic material.	No odour
0874	SD202	15/03/2024	Silty SAND, loose, dark brown, fine to medium grained sand, wet.	No odour
0874	SD203	15/03/2024	Silty CLAY, soft, dark brown, low plasticity, with fine sand, wet.	No odour
0874	SD204	15/03/2024	Silty sandy CLAY, soft, dark brown, low plasticity, fine sand, wet.	No odour
0874	SD205	15/03/2024	Silty CLAY, soft, dark brown, low to medium plasticity, wet.	No odour
0874	SD206	15/03/2024	Silty sandy CLAY, dark brown, low plasticity, fine sand.	No odour
0874	SD207	15/03/2024	Silty CLAY, soft, dark brown, low to medium plasticity, wet.	No odour
Mundy Creek				
0874	SD108	19/03/2024	Clayey SILT, firm, black, medium plasticity, wet. Organic material.	No odour
0874	SD109	20/03/2024	SAND, loose, light brown, coarse grained, wet.	No odour
0874	SD113	11/03/2024	Silty CLAY, soft, black, with some sand and organic matter.	No odour
0874	SD114	11/03/2024	Silty CLAY, soft, brown.	No odour
0874	SD115	11/03/2024	Silty CLAY, brown, low to medium plasticity.	No odour
0874	SD116	11/03/2024	Silty CLAY, soft, grey, low plasticity.	No odour
0874	SD117	11/03/2024	Silty CLAY, very soft, black, low plasticity, with some organic matter.	No odour
0874	SD118	11/03/2024	Silty CLAY, very soft, low to medium plasticity, with some organic matter.	No odour
0874	SD119		No Sediment - Concrete drain, no sediment sample collected.	
0874	SD208	20/03/2024	SAND, loose, light brown, coarse grained sand. Organic matter	No odour
0874	SD209		Flooded tracks, unable to access sampling point	
Three Mile Creek				
0874	SD107	20/03/2024	CLAY, soft, dark grey, low plasticity, wet.	Slight organic odour
0874	SD210	19/03/2024	CLAY, dense, grey, high plasticity, wet.	No odour

T7: Sediment PFAS Analytical Results

Per- and Poly-fluoroalkyl Substances

	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)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHps)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002			
Location ID Sample ID Date																																		
On-Base																																		
Bohle River/Louisa Creek/Town Common																																		
SD013	0874	SD013	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0153	<0.0002	0.0168	0.0171			
SD014	0874	SD014	230320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
SD016	0874	SD016	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0022	<0.0002	0.0026	0.0026			
SD123	0874	SD123	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0012	<0.0005	<0.0002	0.0005	0.0002	0.0041	0.002	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.027	0.0008	0.0284	0.295		
SD125	0874	SD125	240320	20/03/2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	0.0144	<0.001	<0.0004	<0.001	0.0082	<0.002	<0.0004	0.0385	0.0018	0.0026	0.0493	0.0189	0.242	0.0022	0.013	<0.001	<0.0004	0.0006	2.21	0.013	2.45	2.61		
SD126	0874	SD126	240328	28/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.0002	<0.0002	0.0005	0.0005	0.004	0.0002	<0.0002	<0.0005	<0.0002	<0.0002	0.0625	0.0004	0.0665	0.0699		
SD131	0874	SD131	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.0002	<0.0002	0.0002	0.0005	0.0032	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	0.0343	<0.0002	0.0375	0.0389		
Mundy Creek																																		
SD001	0874	SD001	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	0.0003	0.0006	0.0022	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0149	<0.0002	0.0171	0.0186		
SD010	0874	SD010	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0011	<0.0002	<0.0002	0.0003	0.0007	0.0025	0.0002	0.0002	<0.0005	<0.0002	0.0002	0.0496	0.0004	0.0521	0.0556	
SD121	0874	SD121	240328	28/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	0.0007	<0.0002	<0.0002	0.0002	0.0004	0.0053	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	0.042	0.0003	0.0473	0.0511	
SD132	0874	SD132	240320	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0028	<0.001	<0.0002	0.0003	<0.0002	0.0014	0.0016	0.0082	0.0206	0.0015	0.0026	<0.0005	<0.0002	0.0003	0.0786	0.0044	0.0992	0.122	
Three Mile Creek																																		
SD102	0874	SD102	240320	20/03/2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	0.0011	<0.002	<0.0004	0.0009	<0.0004	<0.0004	0.0015	0.0015	0.0188	<0.0004	0.001	<0.001	<0.0004	<0.0004	<0.0004	0.0883	0.0005	0.107	0.114	
Off-Base																																		
Bohle River/Louisa Creek/Town Common																																		
SD017	0874	SD017	240311	11/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
SD021	0874	SD021	240311	11/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
SD110	0874	SD110	240319	19/03/2024	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	0.0016	<0.002	<0.0005	<0.0005	<0.0005	0.0006	0.0015	0.0044	0.0212	0.0006	0.002	<0.0012	<0.0005	<0.0005	<0.0005	0.0946	0.0012	0.116	0.128	
SD111	0874	SD111	240319	19/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	0.0002	0.0008	0.0019	0.0103	0.0003	0.0006	<0.0005	<0.0002	<0.0002	0.033	0.0005	0.0433	0.0479		
SD120	0874	SD120	240311	11/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	0.0003	<0.0002	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0004	0.0004	<0.0002	0.0022	<0.0002	0.0022	0.0053
SD127	0874	SD127	240311	11/03/2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0005	<0.0004	<0.0004	<0.0004	<0.0004	<0.001	<0.0004	<0.0004	<0.0004	0.0019	<0.0004	0.0019	0.0024		
SD129	0874	SD129	240311	11/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005		
SD201	0874	SD201	240319	19/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
SD202	0874	SD202	240315	15/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004		
SD203	0874	SD203	240315	15/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0035	0.0002	0.0037	0.0039			
SD204	0874	SD204	240315	15/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0019	0.0019			
SD205	0874	SD205	240315	15/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0041	<0.0002	0.0046	0.0046			
SD206	0874	SD206	240315	15/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.000																									

T8: Historical Groudwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																										0.13	220			
PFAS NEMP 2020 Drinking Water																											0.56	0.07		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
Sub-Management Area One																															
MW013	30/06/2017	<0.05	0.72	0.07	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	25.2	8.2	0.04	0.13	<0.02	6.59	10.2	63	128	9.83	19	<0.05	<0.02	<0.02	0.17	649	30.7	777	951
	27/07/2017	<0.10	2.07	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	8.01	2.8	<0.10	<0.10	<0.10	4.3	3.51	15.8	39.5	3.49	11	<0.25	<0.10	<0.10	<0.10	92.1	6.06	132	189
	17/08/2017	<0.05	5.39	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	9.65	3.2	<0.02	<0.02	<0.02	7.09	11.1	29.2	45.1	8.68	11.4	<0.05	<0.02	<0.02	0.07	127	8.57	172	266
	17/04/2018	<0.05	4	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.9	8.1	<0.02	<0.02	<0.02	10.4	12.1	49.8	71.7	9.7	20	<0.05	<0.02	<0.02	0.08	268	13.6	340	485
	18/12/2018	<0.020	4.78	0.048	<0.020	<0.050	<0.0200	<0.050	0.022	<0.050	<0.0200	<0.050	25	1.63	0.022	<0.0200	<0.0200	16.5	16.7	89.2	102	18.2	22	<0.0500	<0.0200	<0.0200	0.268	240	17.8	342	554
	2/05/2019	<0.05	2.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	11.1	<0.1	<0.02	<0.02	<0.02	6.2	11.4	29.6	48.5	1.02	13.3	<0.05	<0.02	<0.02	0.06	170	10.1	218	303
	15/10/2019	<0.05	5.35	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.4	4.6	<0.02	<0.02	<0.02	8.69	8.9	51.6	74.2	10.5	14.5	<0.05	<0.02	<0.02	0.11	216	13.8	290	426
	28/04/2020	<0.05	3.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	15.2	0.6	<0.02	<0.02	<0.02	8.3	11.3	46.3	65.5	8.48	14.8	<0.05	<0.02	<0.02	0.13	227	12.1	292	413
	10/09/2020	<0.18	2.1	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	10.4	5.2	<0.18	<0.18	<0.18	6.09	5.74	32.1	45.7	6.92	9.86	<0.44	<0.18	<0.18	<0.18	130	9.54	176	264
	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	186	12.8	249	376
	11/10/2021	<0.5	4.31	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17.9	9.1	<0.5	<0.5	<0.5	11	11	55.2	72.8	11.4	17.5	<1.24	<0.5	<0.5	<0.5	248	16.2	321	474
	22/04/2022	<0.5	4.6	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.8	10.6	<0.5	<0.5	<0.5	12.2	11.2	66.9	83	13.7	20.6	<1.25	<0.5	<0.5	<0.5	305	19.6	388	568
19/10/2022	<0.08	4.57	<0.08	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	18.8	45	<0.08	<0.08	<0.08	11.8	17	66.4	84.3	12.4	19.4	<0.2	<0.08	<0.08	<0.08	59.9	18.4	144	358	
MW116	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	27.4	5.6	<0.02	0.08	<0.02	3.33	2.63	32.9	74.4	4.62	20	<0.05	<0.02	<0.02	<0.02	83.4	6.54	158	261
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	38.9	8.2	<0.10	<0.10	<0.10	14.7	5.21	56.3	111	13	40.8	<0.25	<0.10	<0.10	<0.10	103	17.1	214	408
	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	54.4	16.5	<0.02	0.07	<0.02	20.9	10.5	112	169	21.7	48.2	<0.05	<0.02	<0.02	0.1	147	28	316	628
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	12.1	3.8	<0.02	0.12	<0.02	4.19	2.62	22.1	34.6	4.22	9.27	<0.05	<0.02	<0.02	0.02	48.6	5.55	83.2	147
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.498	<0.050	<0.0200	<0.050	2.17	0.388	0.024	0.782	<0.0200	1.03	1.35	4.97	12.8	1.24	1.91	<0.0500	<0.0200	<0.0200	0.066	72	3.44	84.8	103
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	9.43	<0.1	<0.02	0.07	<0.02	3.15	1.98	17.7	29.5	0.45	9.34	<0.05	<0.02	<0.02	<0.02	40.7	5.07	70.2	117
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	15.9	2.7	<0.02	0.33	<0.02	5.73	3.08	35	59.4	6.07	12.4	<0.05	<0.02	<0.02	0.11	109	8.56	168	258
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.48	3.1	<0.02	<0.02	<0.02	3.02	2.19	15.2	27.5	3.69	7.5	<0.05	<0.02	<0.02	<0.02	34.2	4.48	61.7	109
	11/09/2020	<0.33	<0.33	<0.33	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	26.5	8.3	<0.33	<0.33	<0.33	9.78	5.37	52.6	81.5	10.9	21.1	<0.82	<0.33	<0.33	<0.33	106	15	188	337
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3
	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	11.9	4.2	<0.25	<0.25	<0.25	4.65	3.02	25	42.8	5.2	10.7	<0.62	<0.25	<0.25	<0.25	72.5	7.3	115	187
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	7.83	2.7	<0.02	<0.02	<0.02	2.52	1.31	15.1	22.9	3.32	6.74	<0.06	<0.02	<0.02	<0.02	18.7	3.58	41.6	84.7
MW118	27/07/2017	<0.05	0.25	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.3	<0.02	<0.02	<0.02	0.2	0.11	0.42	1.2	0.32	0.25	<0.05	<0.02	<0.02	<0.02	5.26	0.3	6.46	8.98
	28/07/2017	<0.05	0.24	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	3.7	<0.02	<0.02	<0.02	0.14	0.07	0.31	0.81	0.28	0.21	<0.05	<0.02	<0.02	<0.02	3.28	0.21	4.09	9.53
	17/08/2017	<0.05	0.28	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.1	<0.02	<0.02	<0.02	0.12	0.08	0.44	0.92	0.25	0.2	<0.05	<0.02	<0.02	<0.02	3.23	0.24	4.15	6.08
	17/04/2018	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.18	0.31	0.12	0.07	<0.05	<0.02	<0.02	<0.02	1.29	0.08	1.6	2.41
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.218	<0.020	<0.0200	<0.0200	<0.0200	<0.0200	0.096	0.222	0.054	0.084	<0.0500	<0.0200	<0.0200	<0.0200	0.232	0.02	0.454	0.926	
	2/05/2019	0.001	0.888	0.081	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.584	0.076	0.0044	0.001	<0.0005	0.397	0												

T8: Historical Groudwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	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				
LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														0.13	220		
PFAS NEMP 2020 Drinking Water																															0.56	0.07	
Location ID	Sample Date																																
MW129	17/08/2017	<0.05	1.31	0.19	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	1.41	1.1	0.04	0.11	<0.02	0.85	0.73	3.73	7.39	2.27	1.24	<0.05	<0.02	<0.02	0.11	34.4	2.82	41.8	57.9		
	17/04/2018	<0.05	1.11	0.87	<0.05	<0.05	<0.02	<0.05	0.38	<0.05	<0.02	<0.05	1.2	2	0.09	1.06	<0.02	0.74	0.6	2.82	6.22	2.74	0.93	<0.05	<0.02	0.02	0.16	45.8	2.05	52	68.8		
	18/12/2018	0.02	6.92	0.666	0.038	<0.050	<0.0200	<0.050	0.184	<0.050	<0.0200	<0.050	4.12	0.54	0.094	0.438	<0.0200	2.35	2.06	10.3	18.3	3.9	3.54	<0.0500	<0.0200	0.032	0.164	56.1	5.05	74.4	115		
	15/10/2019	<0.05	8.92	0.09	<0.05	<0.05	<0.02	<0.05	0.15	<0.05	<0.02	<0.05	6.34	3.9	0.03	0.14	<0.02	3.64	1.16	19.8	24.8	7.04	4.67	<0.05	<0.02	<0.02	0.14	24.9	4.93	49.7	111		
	29/04/2020	<0.05	3.01	0.2	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.04	2.1	<0.05	<0.05	<0.05	2.82	1.59	8.86	22.4	3.84	3.52	<0.12	<0.05	<0.05	0.16	35.3	4.61	57.7	91.4		
	10/09/2020	<0.07	3.76	0.19	<0.07	<0.18	<0.07	<0.18	0.17	<0.18	<0.07	<0.18	2.75	2	<0.07	<0.07	<0.07	1.74	1.09	6.8	13.6	3.73	2.21	<0.18	<0.07	<0.07	0.14	30.4	4.15	44	72.7		
	21/04/2021	<0.07	10.1	1.39	0.12	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	2.69	6.9	0.1	<0.07	<0.07	0.78	0.28	5.87	3.6	10.3	1.11	<0.19	<0.07	<0.07	0.15	12.6	0.97	16.2	57		
	11/10/2021	0.09	14.1	0.28	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	3.32	4.6	0.06	<0.05	<0.05	1.97	1.01	9.5	13.7	8.08	2.62	<0.12	<0.05	<0.05	0.21	27.3	3.45	41	90.4		
	20/04/2022	0.08	9.32	0.58	<0.05	<0.12	<0.05	<0.12	0.08	<0.12	<0.05	<0.12	2.13	5.7	0.09	<0.05	<0.05	0.79	0.63	4.86	5.45	7.03	1.32	<0.12	<0.05	<0.05	0.13	22.9	1.68	28.4	62.8		
	Sub-Management Area Two																																
MW005	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	22.3	6.1	<0.05	<0.05	<0.05	9.5	26.4	92.1	388	5.53	31.6	<0.12	<0.05	<0.05	<0.05	234	14.6	622	830		
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	16.4	5	<0.10	<0.10	<0.10	5.21	14.9	54.9	270	8.92	20.1	<0.25	<0.10	<0.10	<0.10	135	7.41	405	538		
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	18.8	1.88	<0.0200	0.028	<0.0200	8.51	16.4	73.9	298	12	20.8	<0.0500	<0.0200	<0.0200	0.09	148	14.6	446	613		
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	29.1	<2.5	<0.50	<0.50	<0.50	11.8	35.8	112	590	7.3	33	<1.25	<0.50	<0.50	<0.50	494	19.6	1,080	1,330		
	16/10/2019	<0.10	0.42	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	33.8	5	<0.10	<0.10	<0.10	12	27.7	116	590	21.7	32.3	<0.25	<0.10	<0.10	0.13	260	18.9	850	1,120		
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	19.9	<5.3	<0.50	<0.50	<0.50	8.7	18.4	76.2	372	12.4	24.8	<1.25	<0.50	<0.50	<0.50	232	12.5	604	777		
	7/09/2020	<0.49	<0.49	<0.49	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	22.3	9	<0.49	<0.49	<0.49	7.89	17.6	79.7	364	13.2	24.2	<1.22	<0.49	<0.49	<0.49	174	13.2	538	725		
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	38	<50	<10	<10	<10	19	37	148	757	27	41	<25	<10	<10	<10	373	25	1130	1460		
	14/10/2021	<0.86	<0.86	<0.86	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	50.8	18.1	<0.86	<0.86	<0.86	21.4	74.2	231	1050	32.4	65.6	<2.15	<0.86	<0.86	<0.86	745	37.7	1800	2330		
	20/04/2022	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	48	15.5	<2.5	<2.5	<2.5	21.5	59.5	208	988	32.2	64.8	<6.25	<2.5	<2.5	<2.5	817	36.8	1800	2290		
	11/10/2022	<0.05	<0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	32.8	12.7	<0.05	<0.05	<0.05	15.2	95	368	944	27	122	<0.12	<0.05	<0.05	<0.14	692	30.3	1640	2340		
	26/04/2023	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	43.2	14.5	<0.22	<0.22	<0.22	20.5	89.2	186	835	30.6	75.4	<0.56	<0.22	<0.22	0.24	804	35.1	1640	2130		
	11/10/2023	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	32	<0.5	6.6	<0.5	<0.5	11.8	33	118	670	20.6	42.2	<1.25	<0.5	<0.5	<0.5	326	20	996	1280		
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	30.9	8.2	<0.04	<0.04	<0.04	11.4	33.1	117	618	16.1	41.9	<0.09	<0.04	<0.04	0.17	448	20.2	1070	1340		
	MW015	16/08/2017	<0.05	0.19	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	14.2	3.6	<0.05	<0.05	<0.05	5.51	13.1	96.2	332	2.79	23.2	<0.05	<0.02	<0.02	0.03	198	9.04	530	698	
16/04/2018		<0.10	0.21	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	206	52.2	<0.10	<0.10	<0.10	62.3	116	545	2,580	86.1	252	<0.25	<0.10	<0.10	0.19	960	86.3	3,540	4,950		
19/12/2018		<0.020	0.202	0.068	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	<0.050	84	4.39	0.022	0.058	<0.0200	24.3	67	270	1,010	37.8	151	<0.0500	<0.0200	<0.0200	0.178	306	38.9	1,320	1,990		
30/04/2019		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	140	<2.5	<0.50	<0.50	<0.50	37.8	72.2	392	2,000	10.3	175	<1.25	<0.50	<0.50	<0.50	565	68.8	2,560	3,460		
16/10/2019		<0.05	0.09	<0.05	<0.05	<0.12	<0.05	<0.12	0.06	<0.05	<0.12	<0.05	14.2	3.2	<0.05	<0.05	<0.05	4.41	11.3	42.7	210	7.43	17.9	<0.05	<0.02	<0.02	0.05	108	9.14	318	428		
30/04/2020		<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	110	<25.0	<5.00	<5.00	<5.00	32.5	61.5	326	1,450	42	141	<12.5	<5.00	<5.00	<5.00	334	46.5	1,780	2,540		
7/09/2020		<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.2	7	<0.5	<0.5	<0.5	6.1	12.7	60.6	230	10.4	18.3	<1.25	<0.5	<0.5	<0.5	164	11.8	394	541		
29/04/2021		<2.17	<2.17	<2.17	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	119	26.3	<2.17	<2.17	<2.17	39.1	67.8	349	1,440	59.3	189	<5.43	<2.17	<2.17	<2.17	440	59.6	1,880	2,790		
12/10/2021		<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	20.7	7	<0.5	<0.5	<0.5	6.73	20.2	64.9	276	9.86	29.1	<1.24	<0.5	<0.5	<0.5	137	12.6	413	584		
21/04/2022		<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	54.9	13.2	<1	<1	<1	15.2	29.9	130	538	22.9	60.8	<2.5	<1	<1	<1	370	28.6	908	1,260		
11/10/2022		<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	16.9	5.2	<0.25	<0.25	<0.25	5.7	17.6	65.9	247	10.1	22.3	<0.62	<0.25	<0.25	<0.25	192	12.1	439	595		
27/04/2023		<0.91	<0.91	<0.91	<0.91	<2.27	<0.91	<2.27	<0.91	<2.27	<0.91	<2.27	114	26	<0.91	<0.91	<0.91	30.5	68</														

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW021	16/08/2017	<0.05	0.59	0.13	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	11.8	4.2	<0.02	0.03	<0.02	4.4	18.9	75.1	229	2.42	16.3	<0.05	<0.02	<0.02	0.07	479	9.45	708	852	
	16/04/2018	<0.05	0.6	0.14	<0.05	<0.05	<0.02	<0.05	0.29	<0.05	<0.02	<0.05	13	4.5	<0.02	0.2	<0.02	4.08	13.4	34.4	158	6.34	14	<0.05	<0.02	<0.02	0.1	355	7.61	513	612	
	19/12/2018	<0.020	0.438	0.096	<0.020	<0.050	<0.0200	<0.050	0.152	<0.050	<0.0200	<0.050	7.92	0.428	0.02	0.068	<0.0200	2.53	10.2	18.1	84.6	3.81	9.63	<0.0500	<0.0200	<0.0200	0.072	141	5.58	226	285	
	30/04/2019	<0.10	0.29	0.28	<0.10	<0.25	<0.10	<0.25	0.42	<0.25	<0.10	<0.25	7.9	<0.5	<0.10	<0.10	<0.10	2.53	8.35	20.7	89.2	1.9	8.45	<0.25	<0.10	<0.10	<0.10	162	6.4	251	308	
	16/10/2019	<0.05	0.76	0.07	<0.05	<0.02	<0.05	<0.02	0.29	<0.05	<0.02	<0.05	18.4	7.8	<0.02	0.06	<0.02	6.08	16.4	48.3	202	10.5	17.7	<0.05	<0.02	<0.02	0.12	192	12.4	394	533	
	30/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	500	264	<5.00	<5.00	<5.00	261	664	1,970	9,910	346	866	<12.5	<5.00	<5.00	<5.00	4,580	516	14,500	19,900	
	7/09/2020	<25	<25	<25	<25	<62.5	<25	<62.5	<25	<62.5	<25	<62.5	600	290	<25	<25	<25	240	632	2,070	10,900	388	720	<62.5	<25	<25	<25	5,460	608	16,400	21,900	
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	618	269	<10	<10	<10	320	1,100	2,340	15,400	414	943	<25	<10	<10	<10	10,700	803	26,100	32,900	
	12/10/2021	<100	<100	<100	<100	<250	<100	<250	<100	<250	<100	<250	1030	510	<100	<100	<100	500	1,410	4,050	21,900	670	1,440	<250	<100	<100	<100	12,200	1,300	34,100	45,000	
	21/04/2022	<20	<20	<20	<20	<50	<20	<50	<20	<50	<20	<50	400	106	<20	<20	<20	144	508	1,280	7,690	252	462	<50	<20	<20	<20	4,480	416	12,200	15,700	
	11/10/2022	<10.4	<10.4	<10.4	<10.4	<26	<10.4	<26	<10.4	<26	<10.4	<26	514	217	<10.4	<10.4	<10.4	251	1,020	2,540	15,000	406	803	<26	<10.4	<10.4	<10.4	9,510	727	24,500	31,000	
	27/04/2023	<9.09	<9.09	<9.09	<9.09	<22.7	<9.09	<22.7	<9.09	<22.7	<9.09	<22.7	216	71.8	<9.09	<9.09	<9.09	100	520	793	5,720	164	341	<22.7	<9.09	<9.09	<9.09	8,940	286	14,700	17,200	
	17/11/2023	<8.40	<8.40	<8.40	<8.40	<21.0	<8.40	<21.0	<8.40	<21.0	<8.40	<21.0	544	205	<8.40	<8.40	<8.40	233	959	1,840	11,500	346	821	<21.0	<8.40	<8.40	<8.40	9,580	694	21,100	26,700	
	19/03/2024	<3.45	<3.45	<3.45	<3.45	<8.62	<3.45	<8.62	<3.45	<8.62	<3.45	<8.62	572	64.7	<3.45	<3.45	<3.45	258	1,340	18,700	14,100	344	1,100	<8.62	<3.45	<3.45	<3.45	14,000	828	28,100	34,500	
	MW046	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	12.1	3.2	<0.02	<0.02	<0.02	4.92	12.7	86.2	282	7.41	19.1	<0.05	<0.02	<0.02	0.07	90	11.5	372	529
16/04/2018		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.04	1.2	<0.10	<0.10	<0.10	1.55	6.64	23.4	88.7	2.42	6.96	<0.25	<0.10	<0.10	<0.10	149	3.62	238	288	
20/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	8.5	0.312	<0.0200	<0.0200	<0.0200	3.45	10.3	70.7	186	4.54	13.7	<0.0500	<0.0200	<0.0200	0.054	87.1	8.12	273	393	
30/04/2019		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	10.7	<0.2	<0.05	<0.05	<0.05	4.57	14.4	63.3	242	2.27	17	<0.12	<0.05	<0.05	0.05	117	11	359	482	
30/05/2019		<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	11.5	<5	<1	<1	<1	5.6	12.6	82.8	255	7.5	13	<2.5	<1	<1	<1	74.3	11	329	473	
16/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	12.1	3.2	<0.02	<0.02	<0.02	4.92	12.7	86.2	282	7.41	19.1	<0.05	<0.02	<0.02	0.07	90	11.5	372	529	
27/04/2020		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	15.4	<9.5	<0.50	<0.50	<0.50	6.8	16.5	94	323	8.3	25.3	<1.25	<0.50	<0.50	<0.50	127	14.1	450	630	
7/09/2020		<0.32	<0.32	<0.32	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	9.61	3.1	<0.32	<0.32	<0.32	4.39	12.2	69.4	204	5.8	15.2	<0.8	<0.32	<0.32	<0.32	92.7	10.6	297	427	
28/04/2021		<0.43	<0.43	<0.43	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	4.96	<2.2	<0.43	<0.43	<0.43	2.56	9	36.2	123	3.87	8.91	<1.09	<0.43	<0.43	<0.43	93.5	6.22	216	288	
11/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.05	0.19	0.74	2.56	0.08	0.19	<0.05	<0.02	<0.02	<0.02	1.93	0.12	4.49	5.97	
20/04/2022		<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.12	<1.2	<0.25	<0.25	<0.25	2.25	8.68	35	115	3.45	7.98	<0.62	<0.25	<0.25	<0.25	115	6.72	230	299	
10/10/2022		<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	5.15	<2.5	<0.5	<0.5	<0.5	2.9	10.6	43.9	151	4.35	11.4	<1.25	<0.5	<0.5	<0.5	97.6	7.95	249	335	
26/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	5.64	1.8	<0.02	<0.02	<0.02	2.19	11.3	45.6	161	4.48	11.6	<0.05	<0.02	<0.02	0.05	115	8.16	276	367	
10/10/2023		<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	5.2	<0.5	<0.5	<0.5	<0.5	2.65	9.45	41.6	150	4.55	10	<1.25	<0.5	<0.5	<0.5	111	7.7	261	342	
14/03/2024		<0.05	<0.05	<0.05	<0.05	<0.09	<0.05	<0.09	<0.05	<0.09	<0.05	<0.09	3.22	0.5	<0.04	<0.04	<0.04	1.45	7.1	21.3	92.8	2.42	6.48	<0.09	<0.04	<0.04	<0.04	111	4.69	204	251	
MW054	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	50	1.19	77.7	102	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2	
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7	
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	0.04	93.7	1.44	126	152	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99	
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25																										

T8: Historical Groundwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																										0.13	220			
PFAS NEMP 2020 Drinking Water																										0.56	0.07			

Location ID	Sample Date	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
MW081	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	256	12.2	<0.02	<0.02	<0.02	81.1	131	822	4,050	33.2	324	<0.05	<0.02	<0.02	0.17	2,310	130	6,360	8,150
	24/01/2018	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	457	26.3	0.11	0.6	<0.02	204	515	1,390	8,520	152	826	<0.05	<0.02	<0.02	0.96	3,280	348	11,800	15,700
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.19	<0.12	<0.05	<0.12	127	19.8	0.1	0.33	<0.05	55.4	158	432	3,320	45.9	306	<0.12	<0.05	<0.05	<0.50	1,800	125	5,120	6,510
	16/04/2018	-	-	-	-	-	-	-	-	-	-	-	141	86	<0.50	<0.50	-	58.4	190	976	3,430	91.9	359	-	-	-	0.73	-	146	5,230	7,160
	17/12/2018	<0.200	<0.200	<0.200	<0.200	<0.500	<0.200	<0.500	0.28	<0.500	<0.200	<0.500	177	1.86	<0.200	0.3	<0.200	103	372	558	6,490	51.4	238	<0.500	<0.200	<0.200	1.42	2,770	268	9,260	11,000
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	162	<2.5	<0.50	<0.50	<0.50	77.2	366	554	4,200	6.5	258	<1.25	<0.50	<0.50	<0.50	3,070	185	7,270	8,880
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	167	17.4	0.08	0.34	<0.02	73	241	542	3,910	61.5	252	<0.05	<0.02	<0.02	0.75	2,420	151	6,330	7,840
	27/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	136	<25.0	<5.00	<5.00	<5.00	58	220	394	3,370	40	224	<12.5	<5.00	<5.00	<5.00	1,700	123	5,070	6,260
	7/09/2020	<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	106	<25	<5	<5	<5	49.5	170	372	2,170	44	153	<12.5	<5	<5	<5	1,340	106	3,510	4,510
	28/04/2021	<2.32	<2.32	<2.32	<2.32	<5.81	<2.32	<5.81	<2.32	<5.81	<2.32	<5.81	220	28.1	<2.32	<2.32	<2.32	154	610	953	7,230	99.5	630	<5.81	<2.32	<2.32	<2.32	4,160	369	11,400	14,400
	11/10/2021	<4.42	<4.42	<4.42	<4.42	<11.1	<4.42	<11.1	<4.42	<11.1	<4.42	<11.1	117	23.9	<4.42	<4.42	<4.42	52.2	217	418	2,520	50	196	<11.1	<4.42	<4.42	<4.42	2,060	121	4,580	5,780
	20/04/2022	<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	116	<25	<5	<5	<5	44.5	134	344	2,040	51	157	<12.5	<5	<5	<5	828	97.5	2,870	3,810
	11/10/2022	<1.04	<1.04	<1.04	<1.04	<2.6	<1.04	<2.6	<1.04	<2.6	<1.04	<2.6	68.6	12.4	<1.04	<1.04	<1.04	33.6	186	326	1,960	35.6	128	<2.6	<1.04	<1.04	<1.04	1,220	88.9	3,180	4,060
	26/04/2023	<4.67	19.2	<4.67	<4.67	<11.7	<4.67	<11.7	<4.67	<11.7	<4.67	<11.7	65.4	<23.4	<4.67	<4.67	<4.67	32.2	166	222	1,710	32.2	111	<11.7	<4.67	<4.67	<4.67	1,960	80.8	3,670	4,400
11/10/2023	<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	76.5	<5	<5	<5	<5	32	164	234	1,760	29	114	<12.5	<5	<5	<5	1,710	97	3,470	4,210	
13/03/2024	<0.39	<0.39	<0.39	<0.39	<0.97	<0.39	<0.97	<0.39	<0.97	<0.39	<0.97	34.4	5.2	<0.39	<0.39	<0.39	18.3	132	131	1,060	16.7	58.4	<0.97	<0.39	<0.39	0.49	1,390	61.9	2,450	2,910	
MW090	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.09	<0.05	<0.02	<0.05	0.09	1.2	<0.02	<0.02	<0.02	0.02	0.13	0.45	1.76	<0.02	0.12	<0.05	<0.02	<0.02	<0.02	5.3	0.05	7.06	9.12
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.09	0.25	1.61	0.03	0.12	<0.05	<0.02	<0.02	<0.02	2.42	0.06	4.03	4.69
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.020	<0.050	<0.020	<0.050	<0.020	<0.050	0.048	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	0.17	0.674	0.052	0.05	<0.0500	<0.0200	<0.0200	<0.0200	2.61	0.034	3.28	3.69
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.35	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	1.82	<0.01	2.17	2.21
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.08	0.5	0.03	0.03	<0.05	<0.02	<0.02	<0.02	1.67	0.02	2.17	2.7
	16/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	0.03	0.43	0.52	0.05	-	-	-	-	-	1.96	0.05	2.48	2.77
	27/04/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<2.4	<0.02	<0.02	<0.02	0.06	0.23	0.96	4.92	<0.10	0.4	<0.05	<0.02	<0.02	<0.02	4.26	0.18	9.18	11.4
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.19	0.98	0.04	0.05	<0.05	<0.02	<0.02	<0.02	2.46	0.03	3.44	3.89
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.19	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.29	<0.01	0.48	0.51
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.1	0.42	0.04	0.03	<0.05	<0.02	<0.02	<0.02	1.56	<0.01	1.98	2.23
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.18	0.56	<0.22	0.04	<0.05	<0.02	<0.02	<0.02	2.25	0.02	2.81	3.13
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.27	0.73	<0.08	0.04	<0.05	<0.02	<0.02	<0.02	2.51	0.01	3.24	3.59
	26/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.11	0.69	0.04	0.04	<0.05	<0.02	<0.02	<0.02	2.79	0.02	3.48	3.78
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.09	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	0.42	1.05	0.13	0.06	<0.12	<0.05	<0.05	<0.05	2.97	<0.05	4.02	4.72
13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.15	<0.1	<0.02	<0.02	<0.02	0.04	0.18	0.63	2.46	0.13	0.19	<0.05	<0.02	<0.02	<0.02	3.12	0.1	5.58	7	
MW																															

T8: Historical Groundwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220		
PFAS NEMP 2020 Drinking Water																											0.56	0.07		

Location ID	Sample Date	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS	
MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546	
	29/07/2017	<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060	
	15/08/2017	<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370	
	30/04/2019	<0.05	0.12	0.16	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	31.3	1.29	55.1	80.6	
	16/10/2019	<0.05	0.16	0.11	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	6.58	3.3	0.03	<0.02	<0.02	1.52	3.37	14.6	49	4.19	5.77	<0.05	<0.02	<0.02	0.06	60.4	2.76	109	152	
	27/04/2020	<0.50	0.95	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	38.6	<16.8	<0.50	<0.50	<0.50	11.4	19.2	95.4	339	20.2	42.2	<1.25	<0.50	<0.50	<0.50	384	17.6	723	968
	7/09/2020	<1.2	<1.2	<1.2	<1.2	<3	<1.2	<3	<1.2	<3	<1.2	<3	<1.2	64	28.8	<1.2	<1.2	<1.2	14.9	25.2	144	474	33.2	56.5	<3	<1.2	<1.2	<1.2	427	30.1	901	1300
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	<1	8.6	5.2	<1	<1	<1	2.2	3.3	19.4	56	5.6	8.6	<2.5	<1	<1	<1	83.1	2.9	139	195
	12/10/2021	<0.5	0.74	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	19.1	10	<0.5	<0.5	<0.5	5	9.7	51.5	145	11.4	19.8	<1.24	<0.5	<0.5	<0.5	181	8.27	326	462
	21/04/2022	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	<1	48.7	25.4	<1	<1	<1	12.5	23.8	116	383	30.4	51.3	<2.5	<1	<1	<1	476	21.6	859	1190
	12/10/2022	<0.25	0.4	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	32.8	18.1	<0.25	<0.25	<0.25	9.3	17.2	103	278	22.4	37.7	<0.62	<0.25	<0.25	<0.25	311	15.5	589	845
	26/04/2023	<0.37	2.56	<0.37	<0.37	<0.92	<0.37	<0.92	<0.37	<0.92	<0.37	<0.92	<0.37	94.5	38.7	<0.37	<0.37	<0.37	30.1	80.6	257	789	56.2	123	<0.92	<0.37	<0.37	<0.37	1080	61.4	1870	2610
	11/10/2023	<0.91	1.83	<0.91	<0.91	<2.27	1.73	<2.27	<0.91	<2.27	2.27	<2.27	<0.91	60.5	<0.91	24.2	<0.91	1.64	20.1	48.8	180	689	36.5	80.5	4.09	2.18	1.36	<0.91	814	44.4	1500	2010
	19/03/2024	<0.34	1.22	<0.34	<0.34	<0.86	<0.34	<0.86	<0.34	<0.86	<0.34	<0.86	<0.34	68.4	10.8	<0.34	<0.34	<0.34	20.5	53.8	181	620	37.6	88.2	<0.86	<0.34	<0.34	<0.34	839	40.3	1460	1960
	MW139	15/08/2017	0.12	13.4	0.14	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	38.3	15.8	<0.05	0.08	<0.05	14	37.6	109	309	24.1	50.9	<0.12	<0.05	<0.05	0.29	778	44.7	1,090	1,440
		15/08/2017	0.24	21.8	0.46	<0.05	<0.12	<0.05	<0.12	0.62	<0.12	<0.05	<0.12	40.8	16.6	<0.05	0.19	<0.05	19.6	28.8	129	298	23.1	39.4	<0.12	<0.05	<0.05	0.3	564	32.4	862	1,230
		16/04/2018	0.16	39.2	0.76	<0.10	<0.25	<0.10	<0.25	0.78	<0.25	<0.10	<0.25	67.1	27.4	<0.10	0.53	<0.10	32.4	58.7	212	557	36.5	87.1	<0.25	<0.10	<0.10	0.38	1,660	53	2,220	2,830
19/12/2018		0.17	16.9	0.676	<0.020	<0.050	<0.020	<0.050	0.416	<0.050	<0.020	<0.050	52.1	2.73	0.048	0.314	<0.0200	24.1	39.3	165	380	31.3	5.85	<0.0500	<0.0200	<0.0200	0.338	836	46.3	1,220	1,600	
30/04/2019		<0.50	27.2	0.85	<0.50	<1.25	<0.50	<1.25	0.75	<1.25	<0.50	<1.25	49	<2.5	<0.50	<0.50	<0.50	24.1	37.7	148	343	7.7	47	<1.25	<0.50	<0.50	<0.50	1,050	46.8	1,390	1,780	
16/10/2019		0.12	20.7	0.52	<0.10	<0.25	<0.10	<0.25	0.55	<0.25	<0.10	<0.25	45.4	21.8	<0.10	<0.10	<0.10	22.5	30.3	150	333	27.3	45	<0.25	<0.10	<0.10	0.3	753	38.9	1,090	1,490	
27/04/2020		<5.00	22	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	45.5	<25.0	<5.00	<5.00	<5.00	17.5	31	114	302	25	48.5	<12.5	<5.00	<5.00	<5.00	802	42	1,100	1,450
7/09/2020		<5	12	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	<5	39.5	<25	<5	<5	<5	17	24	112	225	23	35	<12.5	<5	<5	<5	498	28.5	723	1010
29/04/2021		<10	27	<10	<10	<25	<10	<25	<10	<25	<10	<25	<10	53	<50	<10	<10	<10	29	64	161	407	36	47	<25	<10	<10	<10	1520	57	1930	2400
12/10/2021		<0.5	5.83	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	13.8	6	<0.5	<0.5	<0.5	6.98	10.6	45.8	90.5	8.37	13.8	<1.25	<0.5	<0.5	<0.5	230	12.8	320	444
21/04/2022		<1	12.7	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	<1	46	18.2	<1	<1	<1	19.6	25.8	124	271	25.4	45.4	<2.5	<1	<1	<1	622	40.3	893	1250
12/10/2022		<0.5	12.4	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	13.9	13.9	<0.5	<0.5	<0.5	16.4	21.4	109	218	19.1	32.2	<1.25	<0.5	<0.5	<0.5	412	28.6	630	913
26/04/2023		<0.91	14.1	<0.91	<0.91	<2.27	<0.91	<2.27	<0.91	<2.27	<0.91	<2.27	<0.91	29.6	8.7	<0.91	<0.91	<0.91	13.9	24.6	84.3	198	24.6	31.9	<2.27	<0.91	<0.91	<0.91	619	25.4	817	1070
11/10/2023		<1	12.4	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	<1	32.9	<1	13.4	<1	<1	17.2	27.6	105	250	22.6	37.4	<2.5	<1	<1	<1	656	36	906	1210
19/03/2024		<0.35	26.8	0.93	<0.35	<0.88	<0.35	<0.88	0.86	<0.88	<0.35	<0.88	<0.35	52.7	7	<0.35	0.73	<0.35	25.3	48.9	157	407	32	59.9	<0.88	<0.35	<0.35	0.37	1130	54.6	1540	2000
MW246		16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	0.3	1.12	3.13	8.69	<0.05	0.99	<0.12	<0.05	<0.05	<0.05	23.7	0.64	32.4	39.3
		17/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	0.75	<0.25	<0.10	<0.25	3.93	1.3	<0.10	0.49	<0.10	1.5	5.18	20.3	53.8	2.82	5.43	<0.25	<0.10	<0.10	<0.10	198	3.5	252	297
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200																									

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	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					
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																			
PFAS NEMP 2020 Drinking Water																																			
Location ID	Sample Date																																		
MW114	29/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.5	1.2	<0.05	<0.05	<0.05	0.54	0.57	6.91	16.3	0.67	3.81	<0.12	<0.05	<0.05	<0.05	10.5	0.64	26.8	46.6				
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	3.65	0.4	<0.02	<0.02	<0.02	0.5	0.65	6.61	16.2	1.23	3.5	<0.05	<0.02	<0.02	<0.02	8.44	0.87	24.6	42				
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.35	0.7	<0.02	<0.02	<0.02	0.6	1.95	3.99	25.6	0.89	2.74	<0.05	<0.02	<0.02	0.05	45.9	1.28	71.5	86				
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	4.11	0.192	<0.0200	<0.0200	<0.0200	0.652	0.902	6.28	18.1	1.21	2.95	<0.0500	<0.0200	<0.0200	0.034	17.6	0.97	35.7	53				
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.24	0.58	1.79	8.51	0.45	1.12	<0.05	<0.02	<0.02	<0.02	14.3	0.5	22.8	28.6				
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.38	0.7	<0.02	<0.02	<0.02	0.65	1.17	4.57	22.5	1.02	1.77	<0.05	<0.02	<0.02	0.04	24	1.22	46.5	60				
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	0.8	<0.05	<0.05	<0.05	0.48	0.95	4.28	17.8	1	2.19	<0.12	<0.05	<0.05	<0.05	19.8	0.78	37.6	50.1				
	10/09/2020	<0.07	<0.07	<0.07	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	1.64	0.5	<0.07	<0.07	<0.07	0.45	1.19	2.84	17.4	0.67	1.66	<0.19	<0.07	<0.07	<0.07	25.2	1.2	42.6	52.8				
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.8	0.3	<0.02	<0.02	<0.02	0.21	0.86	1.44	7.96	0.36	1.03	<0.05	<0.02	<0.02	0.04	22.6	0.54	30.6	36.1				
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1	0.4	<0.05	<0.05	<0.05	0.39	1.43	2.26	15.4	0.49	1.36	<0.12	<0.05	<0.05	0.05	32.8	0.98	48.2	56.6				
	12/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.88	<0.5	<0.1	<0.1	<0.1	0.27	0.7	1.99	10.7	0.53	0.91	<0.25	<0.1	<0.1	<0.1	20.7	0.64	31.4	37.3				
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.3	0.7	<0.05	<0.05	<0.05	0.46	0.83	5.9	12.8	1.03	2.02	<0.12	<0.05	<0.05	<0.05	16.5	0.8	29.3	43.3				
	28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.62	<0.2	<0.05	<0.05	<0.05	0.21	0.71	1.42	7.86	0.37	0.75	<0.12	<0.05	<0.05	<0.05	25	0.53	32.9	37.5				
	10/10/2023	<0.06	<0.06	<0.06	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	0.83	<0.06	<0.3	<0.06	<0.06	0.2	0.55	1.55	6.04	0.35	0.76	<0.15	<0.06	<0.06	<0.06	26.5	0.66	32.5	37.4				
14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.31	0.5	<0.02	<0.02	<0.02	0.46	0.57	4.6	8.5	1.02	1.95	<0.15	<0.06	<0.06	<0.06	13.3	0.58	21.8	33.8					
MW125	29/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.46	<0.05	0.62	0.62				
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.26	<0.2	<0.05	<0.05	<0.05	0.62	2.8	7.29	35.9	1.16	2.86	<0.12	<0.05	<0.05	<0.05	30.3	1.41	66.2	84.6				
	18/12/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	2	<0.020	<0.010	<0.010	0.594	1.59	8.27	37	1.1	2.59	<0.025	<0.010	<0.010	0.013	21.5	0.778	63.9	80.8					
	28/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	0.32	<1.2	<0.25	<0.25	<0.25	<0.25	1.48	7.12	12.8	7.12	<0.25	0.32	<0.62	<0.25	<0.25	22.3	<0.25	29.4	31.5				
	10/09/2020	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.4	<0.2	<0.05	<0.05	<0.05	0.11	0.18	1.91	7.13	0.26	0.38	<0.12	<0.05	<0.05	<0.05	11.6	0.17	18.7	22.2				
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	11	<50	<10	<10	<10	<10	11	45	185	10	11	<25	<10	<10	<10	611	<10	796	884				
	13/10/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.67	<1.1	<0.1	<0.1	<0.1	1.26	4.09	18.6	79.8	2.64	5.95	<0.25	<0.1	<0.1	<0.1	307	2.03	387	425				
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.15	0.78	3.12	0.11	0.21	<0.06	<0.02	<0.02	<0.02	14	0.08	17.1	18.7				
	11/10/2022	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	4.14	<2.4	<0.48	<0.48	<0.48	1.67	4.14	19.6	92.8	2.57	5.38	<1.19	<0.48	<0.48	<0.48	160	2.28	253	292				
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.06	0.16	1.12	0.02	0.06	<0.05	<0.02	<0.02	<0.02	4.2	0.04	5.32	5.7					
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.58	<0.05	<0.2	<0.05	<0.05	0.23	0.69	2.83	15.5	0.39	0.89	<0.12	<0.05	<0.05	<0.05	31.8	0.45	47.3	53.4				
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	2.88	0.5	<0.04	<0.04	<0.04	1.19	4.86	18.5	111	2.46	4.37	<0.09	<0.04	<0.04	0.07	306	2.45	417	454				
	MW142	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0005	0.0008	0.0682	0.296	0.0203	0.0399	<0.0005	<0.0005	<0.0005	0.0005	0.181	0.0237	0.477	0.684
		19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0362	<0.002	<0.0005	<0.0005	<0.0005	0.0095	0.0088	0.0682	0.296	0.0203	0.0399	<0.0005	<0.0005	<0.0005	0.0005	0.181	0.0237	0.477	0.684			
17/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0445	<0.002	<0.0005	<0.0005	<0.0005	0.0039	0.0061	0.0478	0.461	0.0065	0.0302	<0.0005	<0.0005	<0.0005	<0.0005	0.067	0.0038	0.528	0.671				
1/05/2019		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<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	<0.05	<0.05	0.16	<0.05	0.38	0.38				
16/10/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0015	<0.002	<0.0005	<0.0005	<0.0005	0.0012	0.002	0.022	0.0006	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0266	0.0007	0.0486	0.0565					
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.																					

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	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	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01																									
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220																					
PFAS NEMP 2020 Drinking Water																																0.56	0.07																					
Location ID	Sample Date																																																					
MW248	17/08/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	98.6	<0.5	<0.10	<0.10	<0.10	9.52	74.6	97.9	475	18.9	73.3	<0.25	<0.10	<0.10	0.17	693	36.6	1,170	1,580			
	24/01/2018	<0.05	0.23	<0.05	<0.05	<0.05	<0.02	<0.05	0.09	<0.05	<0.02	<0.05	7	<5.0	0.03	<0.02	<0.02	1.8	6.5	17.7	73.7	<1.00	7.8	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.05	<0.02	<0.02	1.8	6.5	17.7	73.7	<1.00	7.8	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	107	6.5	181	228
	19/04/2018	-	<1.00	-	-	-	-	-	-	<1.00	-	-	70	43.2	-	-	-	15.2	83	446	727	66.7	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.00	1,510	61	2,240	2,720		
	19/12/2018	<0.020	0.108	<0.020	<0.020	<0.050	<0.0200	<0.050	0.172	<0.050	<0.0200	<0.050	40.9	0.738	0.028	0.026	<0.0200	10.7	62.4	119	468	13	58.2	<0.0500	<0.0200	<0.0200	0.552	794	40.4	1,260	1,610																							
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.06	<0.12	<0.05	<0.12	33.4	5.1	<0.05	<0.05	<0.05	8.33	48.7	87.2	348	11.5	46.8	<0.12	<0.05	<0.05	0.13	828	27.3	1,180	1,440																							
	15/10/2019	<0.10	0.36	<0.10	<0.10	<0.25	<0.10	<0.25	0.65	<0.25	<0.10	<0.25	10.5	1.1	<0.10	<0.10	<0.10	2.43	6.27	22.9	85.5	4.36	8.76	<0.25	<0.10	<0.10	<0.10	86.1	6.1	172	235																							
	28/04/2020	<2.50	<2.50	<2.50	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	34.2	<12.5	<2.50	<2.50	<2.50	9	46.2	97.8	491	12.5	48	<6.25	<2.50	<2.50	<2.50	725	32.2	1,220	1,500																							
	10/09/2020	<0.36	1.18	<0.36	<0.36	<0.89	<0.36	<0.89	<0.36	<0.89	<0.36	<0.89	37.5	<0.36	<0.36	<0.36	8.29	31	89.2	350	14.1	40.5	<0.89	<0.36	<0.36	<0.36	206	28.3	556	812																								
	6/05/2021	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	36.2	<12.5	<2.5	<2.5	<2.5	10.2	46.5	106	432	16.8	43.8	<6.25	<2.5	<2.5	<2.5	1110	41	1540	1840																							
	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	0.68	<0.62	<0.25	<0.62	13.4	2.6	<0.25	<0.25	<0.25	3.75	14.9	34.6	145	6.1	17	<0.62	<0.25	<0.25	<0.25	180	10.3	325	428																							
	21/04/2022	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	40.9	7.7	<1	<1	<1	10.5	72.8	114	500	14.9	47.9	<2.5	<1	<1	<1	1140	45.2	1640	1990																							
	11/10/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	0.66	<0.58	<0.23	<0.58	19	4.2	<0.23	<0.23	<0.23	5.04	25.6	68.7	242	8.62	24.4	<0.58	<0.23	<0.23	<0.23	412	19.2	654	829																							
	4/05/2023	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	23.9	<5	<1	<1	<1	6	32.4	73.2	320	10.8	34.9	<2.5	<1	<1	<1	705	25	1020	1230																							
	12/10/2023	<1	<1	<1	<1	<2.5	<1	<2.5	1.1	<2.5	<1	<2.5	21.4	<1	<5	<1	<1	5.5	21.8	54.9	230	8.1	27.7	<2.5	<1	<1	<1	428	19.3	658	818																							
	19/03/2024	<0.35	<0.35	<0.35	<0.35	<0.88	<0.35	<0.88	<0.35	<0.88	<0.35	<0.88	29.3	<1.8	<0.35	<0.35	<0.35	7.72	46.5	82	407	12	40.3	<0.88	<0.35	<0.35	<0.35	445	876	31	1280	1530																						
MW249	17/08/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	8.58	<0.25	<0.10	<0.25	6.29	<0.5	<0.10	<0.10	1.28	2.33	15.2	37	2.8	3.69	<0.25	<0.10	<0.10	<0.10	118	3.88	155	199																								
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.02	<0.05	<0.12	0.37	0.2	<0.02	<0.02	<0.02	0.08	0.11	0.41	2.47	0.11	0.36	<0.05	<0.02	<0.02	<0.02	1.93	0.13	4.4	6.17																								
	19/12/2018	-	-	-	-	-	-	-	5.7	-	-	46.3	25.7	0.11	0.71	-	18.8	18.9	393	457	49.8	47.3	-	-	<0.100	0.694	411	58.1	836	1,420																								
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.02	<0.05	<0.12	8.25	1.8	0.03	2.13	<0.02	3.54	5	45.5	93.4	5.15	10.9	<0.05	<0.02	0.03	0.09	150	13.4	243	344																								
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	3.56	<0.05	<0.12	8.4	3.8	0.03	0.25	<0.02	4.82	4.32	35.4	96.8	7.91	9.52	<0.05	<0.02	<0.02	0.21	129	11.1	226	315																								
Remaining On-Base																																																						
MW002	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.1	0.11	0.8	2.79	0.18	0.42	<0.05	<0.02	<0.02	<0.02	<0.02	3.13	0.16	5.92	8.07																						
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	<0.1	<0.02	<0.02	<0.02	0.12	0.13	0.87	3.75	0.21	0.5	<0.05	<0.02	<0.02	<0.02	4.04	0.21	7.79	10.2																							
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.1	0.18	1	2.97	0.2	0.35	<0.05	<0.02	<0.02	<0.02	2.58	0.17	5.55	7.81																							
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.68	<0.2	<0.05	<0.05	<0.05	0.1	0.14	1.12	4.01	0.22	0.51	<0.12	<0.05	<0.05	<0.05	2.66	0.16	6.67	9.6																							
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.732	<0.020	<0.0200	<0.0200	<0.0200	0.078	0.096	0.952	2.62	0.18	0.508	<0.0500	<0.0200	<0.0200	<0.0200	1.46	0.104	4.08	6.73																							
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.38	<0.1	<0.02	<0.02	<0.02	0.09	0.12	0.86	2.71	0.13	0.37	<0.05	<0.02	<0.02	<0.02	2.51	0.11	5.22	7.28																							
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.28	0.1	<0.02	<0.02	<0.02	0.09	0.17	0.88	2.98	0.16	0.31	<0.05	<0.02	<0.02	<0.02	2.02	0.16	5	7.15																							
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.35	0.2	<0.02	<0.02	<0.02	0.1	0.2	0.99	3.64	0.14	0.4	<0.05	<0.02	<0.02	<0.02	3.78	0.16	7.42	9.96																							
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.56	0.3	<0.02	<0.02	<0.02	0.13	0.18	1.33	3.5	0.29	0.54	<0.05	<0.02	<0.02	<0.02	3.3	0.22	6.8	10.4																							
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.78	0.2	<0.02	<0.02	<0.02	0.08	0.09	1.2	3.01	0.25	0.62	<0.05	<0.02	<0.02	<0.02	1.53	0.1	4.54	7.86																							
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.46	0.2	<0.04	<0.04	<0.04	0.14	0.29	1.2	3.64	0.23	0.46	<0.09	<0.04	<0.04	<0.04	4.66	0.24	8.3	11.5																							
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.23	0.1	<0.02	<0.02	<0.02	0.08	0.16	0.82	2.37	0.15	0.23	<0.05	<0.02	<0.02	<0.02	4.26	0.17	6.63	8.57																							
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.39	0.2	<0.02	<0.02	<0.02	0.12	0.18	1.21	3.19	0.22	0.45	<0.05	<0.02	<0.02	<0.02	2.63	0.18	5.82	8.77																							
	27/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05																																															

T8: Historical Groudwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																										0.13	220			
PFAS NEMP 2020 Drinking Water																										0.56	0.07			

Location ID	Sample Date	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
MW026	30/06/2017	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.43	0.6	<0.02	<0.02	<0.02	0.4	0.93	3.22	10.4	0.51	1.44	<0.05	<0.02	<0.02	<0.02	46.4	1.06	56.8	66.7
	27/07/2017	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	0.89	0.3	<0.02	<0.02	<0.02	0.47	0.7	2.18	8.92	0.52	1.3	<0.05	<0.02	<0.02	<0.02	31	0.92	39.9	47.5
	17/08/2017	<0.05	0.23	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	0.91	0.2	<0.02	<0.02	<0.02	0.43	0.89	2.94	10.7	0.65	1.42	<0.05	<0.02	<0.02	<0.02	24.9	1.24	35.6	44.6
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.28	0.1	<0.02	<0.02	<0.02	0.13	0.29	0.81	3.06	0.17	0.34	<0.05	<0.02	<0.02	<0.02	12.5	0.33	15.6	18.1
	18/12/2018	<0.020	0.23	<0.020	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	<0.050	2.04	<0.020	<0.0200	0.034	<0.0200	0.806	1.81	5.4	19.6	1.06	2.11	<0.0500	<0.0200	<0.0200	0.02	45.3	1.89	64.9	80.4
	2/05/2019	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	0.15	<0.05	<0.02	<0.05	0.97	0.2	<0.02	0.06	<0.02	0.41	0.98	2.62	9.25	0.49	1.14	<0.05	<0.02	<0.02	<0.02	37.9	0.97	47.2	55.3
	31/05/2019	<0.1	0.11	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.77	<0.5	<0.1	<0.1	<0.1	0.4	0.57	2.5	7.06	0.51	0.77	<0.25	<0.1	<0.1	<0.1	22.8	0.88	29.9	36.4
	14/10/2019	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	0.09	<0.05	<0.02	<0.05	0.98	0.3	<0.02	<0.02	<0.02	0.41	0.84	2.9	9.22	0.62	0.86	<0.05	<0.02	<0.02	<0.02	30.2	0.95	39.4	47.5
	28/04/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	0.48	0.3	<0.02	0.07	<0.02	0.25	1.05	1.58	5.31	0.33	0.74	<0.05	<0.02	<0.02	<0.02	27.4	0.64	32.7	38.4
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	0.13	<0.1	<0.04	<0.1	0.11	<0.2	<0.04	<0.1	<0.04	0.05	0.22	0.42	2.16	0.08	0.14	<0.1	<0.04	<0.04	<0.04	19.2	0.21	21.4	22.7
	30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.1	<0.25	<0.1	<0.25	0.1	<0.5	<0.1	<0.1	<0.1	0.41	0.33	1.68	<0.1	0.11	<0.25	<0.1	<0.1	<0.1	17.8	0.23	19.5	20.8	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.09	<0.12	<0.05	<0.12	0.1	<0.2	<0.05	<0.05	<0.05	0.06	0.35	0.3	1.72	0.07	0.12	<0.12	<0.05	<0.05	<0.05	16.2	0.21	17.9	19.2
	21/04/2022	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	0.11	<0.24	<0.1	<0.24	0.14	<0.5	<0.1	<0.1	<0.1	<0.1	0.57	0.41	2.58	<0.1	0.16	<0.24	<0.1	<0.1	<0.1	27.1	0.31	29.7	31.4
	13/10/2022	<0.05	0.08	<0.05	<0.05	<0.06	<0.02	<0.06	0.05	<0.06	<0.02	<0.06	<0.22	<0.1	<0.02	<0.02	<0.02	0.05	0.34	0.41	1.72	0.06	0.12	<0.06	<0.02	<0.02	<0.02	13.4	0.18	15.1	16.4
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	0.3	<0.2	<0.02	<0.02	<0.02	0.11	0.48	0.7	2.94	0.16	0.29	<0.11	<0.04	<0.04	<0.04	18.2	0.34	21.1	23.5
10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.06	<0.05	<0.2	<0.05	<0.05	<0.05	0.08	0.18	0.83	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	5.47	0.09	6.3	6.65	
14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.09	0.38	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	1.94	0.04	2.32	2.55	
MW033	18/08/2017	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.98	<0.05	<0.02	<0.05	1.36	<0.1	0.02	0.29	<0.02	0.65	0.9	2	10.6	1.13	0.96	<0.05	<0.02	<0.02	0.04	28	1.42	38.6	48.6
	17/04/2018	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.6	<0.05	<0.02	<0.05	0.79	0.6	0.04	0.54	<0.02	1.01	0.77	2.88	7.99	1.07	0.92	<0.05	<0.02	<0.02	0.13	30.7	1.71	38.7	50
	18/12/2018	<0.020	0.09	0.148	<0.020	<0.050	<0.0200	<0.050	0.424	<0.050	<0.0200	<0.050	0.602	0.068	0.064	0.43	<0.0200	1.11	0.708	2.61	7.21	1.09	0.632	<0.0500	<0.0200	<0.0200	0.116	41.4	2.05	48.6	58.8
	2/05/2019	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.33	<0.05	<0.02	<0.05	0.6	<0.1	0.06	0.38	<0.02	0.74	0.62	2.38	4.86	0.34	0.65	<0.05	<0.02	<0.02	0.12	26.7	1.11	31.6	39
	15/10/2019	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	1.11	0.5	0.05	0.13	<0.02	0.96	1.11	3.39	11	1.2	0.98	<0.05	<0.02	<0.02	0.12	25.6	1.78	36.6	48.4
	28/04/2020	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	0.26	<0.05	<0.02	<0.05	3.24	0.7	0.05	0.48	<0.02	1.14	1.3	3.44	7.14	1.23	1.25	<0.05	<0.02	<0.02	0.08	31.8	1.79	38.9	54
	11/09/2020	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	0.2	<0.16	<0.06	<0.16	0.7	0.5	<0.06	<0.06	<0.06	0.81	0.78	2.77	7.94	0.99	0.78	<0.16	<0.06	<0.06	0.06	20.1	1.62	28	37.2
	30/04/2021	<0.05	<0.05	0.08	<0.05	<0.12	<0.05	<0.12	0.24	<0.12	<0.05	<0.12	0.26	0.3	0.05	0.28	<0.05	0.48	0.24	1.1	2.18	0.5	0.28	<0.12	<0.05	<0.05	0.06	12.6	0.64	14.8	19.3
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.13	<0.12	<0.05	<0.12	0.8	0.5	<0.05	<0.05	1.12	0.86	3.06	8.17	1.15	0.93	<0.12	<0.05	<0.05	<0.05	18.2	2.15	26.4	37.1	
	21/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.21	<0.25	<0.1	<0.25	1.02	<0.5	<0.1	0.43	<0.1	0.75	0.68	3.05	8.56	0.91	1.11	<0.25	<0.1	<0.1	<0.1	19.7	1.54	28.3	38
	13/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.14	<0.05	<0.02	<0.05	0.43	0.3	0.02	0.25	<0.02	0.5	0.31	1.57	3.13	0.62	0.44	<0.05	<0.02	<0.02	0.04	9.3	0.84	12.4	17.9
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	0.31	<0.06	<0.02	<0.06	0.96	0.3	0.02	0.35	<0.02	0.69	0.53	2.29	6.99	0.68	1.02	<0.06	<0.02	<0.02	0.04	15.8	1.11	22.8	31.1
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.13	<0.12	<0.05	<0.12	0.64	<0.05	<0.2	<0.05	<0.05	0.72	0.53	2.18	6.84	0.88	0.82	<0.12	<0.05	<0.05	<0.05	14.6	1.27	21.4	28.5
	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.16	<0.05	<0.02	<0.05	0.26	0.2	<0.02	0.42	<0.02	0.36	0.33	1	2.37	0.45	0.28	<0.05							

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	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					
LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																0.56	0.07	
Location ID	Sample Date																																	
MW056	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.25	2.24	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	2.33	4.6		
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	1.93	<0.05	0.86	<0.12	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	2.05	3.89		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	2.05	0.07	0.75	<0.12	<0.05	<0.05	<0.05	0.08	<0.05	0.08	<0.05	2.13	3.99	
	17/04/2018	<0.10	0.19	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.14	0.6	<0.10	<0.10	<0.10	<0.10	<0.10	0.85	2.77	0.34	0.55	<0.25	<0.10	<0.10	<0.10	0.69	<0.10	0.69	<0.10	3.46	7.13	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.28	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.78	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	0.16	<0.05	0.16	<0.05	1.48		
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.32	<0.02	0.08	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	0.36	0.61			
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.18	1.81	0.03	0.5	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.03	3.38			
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.06	0.2	<0.02	<0.02	<0.02	<0.02	0.05	0.02	0.57	2.36	0.12	0.54	<0.05	<0.02	<0.02	<0.02	0.21	0.05	2.57	5.18		
	6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.63	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.28	1.79	0.07	0.51	<0.05	<0.02	<0.02	<0.02	0.12	0.02	1.91	3.46			
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.84	0.2	<0.04	<0.04	<0.04	0.11	0.1	0.67	4.22	0.17	0.7	<0.09	<0.04	<0.04	<0.04	1.5	0.14	5.72	8.65			
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.68	0.1	<0.02	<0.02	<0.02	0.03	0.03	0.38	1.89	0.08	0.46	<0.05	<0.02	<0.02	<0.02	0.28	0.03	2.17	3.96			
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	0.02	0.02	0.42	2.44	0.11	0.71	<0.05	<0.02	<0.02	<0.02	0.17	0.02	2.61	4.9			
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.05	0.2	<0.02	<0.02	<0.02	0.03	0.03	0.56	3.1	0.12	0.99	<0.05	<0.02	<0.02	<0.02	0.14	0.02	3.24	6.24			
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.9	<0.02	0.2	<0.02	<0.02	<0.02	0.52	2.21	0.15	0.68	<0.05	<0.02	<0.02	<0.02	0.08	0.03	2.29	4.77				
	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.85	0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.56	2.6	0.14	0.72	<0.05	<0.02	<0.02	<0.02	0.06	0.02	2.66	5.08			
MW057	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	1.72	<0.2	<0.05	<0.05	<0.05	0.2	0.43	3.99	8.06	<0.05	1.77	<0.12	<0.05	<0.05	<0.05	3.8	0.18	11.9	20.2				
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	4.09	0.8	<0.10	<0.10	<0.10	0.37	0.73	7.8	17.2	1.47	3.58	<0.25	<0.10	<0.10	<0.10	7.09	0.37	24.3	43.5			
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.020	<0.050	<0.020	<0.050	<0.020	<0.050	2.92	0.184	<0.020	<0.020	<0.020	0.302	0.538	5.96	12.6	1.13	2.57	<0.0500	<0.0200	<0.0200	<0.0200	4.44	0.332	17	31			
	29/04/2019	<0.05	0.2	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	0.1	0.39	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	0.16	0.02	0.55	0.99				
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.3	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.54	1.49	0.13	0.27	<0.25	<0.10	<0.10	<0.10	0.42	<0.10	1.91	3.15			
	30/04/2020	<0.05	0.07	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.08	<0.2	<0.05	<0.05	<0.05	0.14	0.23	2.82	6.08	0.47	1.09	<0.12	<0.05	<0.05	<0.05	2.2	0.1	8.28	14.3			
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.89	0.7	<0.03	<0.03	<0.03	0.32	0.54	6.31	11.6	1.22	2.59	<0.08	<0.03	<0.03	<0.03	4.91	0.34	16.5	31.4			
	28/04/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.54	0.3	<0.02	<0.02	<0.02	0.17	0.3	3.33	6.43	0.72	1.45	<0.05	<0.02	<0.02	<0.02	3.07	0.17	9.5	17.6			
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	2.24	0.5	<0.04	<0.04	<0.04	0.27	0.51	5	11.2	0.95	2.25	<0.09	<0.04	<0.04	<0.04	4.88	0.27	16.1	28.1			
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.84	0.6	<0.02	<0.02	<0.02	0.3	0.61	6.64	12.8	1.31	2.52	<0.05	<0.02	<0.02	<0.02	6.29	0.4	19.1	34.3			
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.45	<0.1	<0.02	<0.02	<0.02	0.05	0.1	0.98	2.36	0.19	0.4	<0.05	<0.02	<0.02	<0.02	1.06	0.05	3.42	5.64			
	28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.78	0.2	<0.02	<0.02	<0.02	0.11	0.21	1.78	4.3	0.37	0.96	<0.05	<0.02	<0.02	<0.02	1.73	0.1	6.03	10.5			
	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.92	<0.02	0.2	<0.02	<0.02	0.11	0.16	2	4.71	0.48	0.9	<0.05	<0.02	<0.02	<0.02	2.04	0.12	6.75	11.6			
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	<0.1	<0.02	<0.02	<0.02	0.09	0.13	1.69	3.86	0.32	0.56	<0.05	<0.02	<0.02	<0.02	1.41	0.1	5.27	8.96			
	MW061	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.58	0.3	<0.02	<0.02	<0.02	0.25	0.58	2.12	6.83	<0.02	0.86	<0.05	<0.02	<0.02	<0.02	14.8	0.72	21.6	27			
17/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	0.67	0.4	<0.02	<0.02	<0.02	0.28	0.64	2.05	8.75	0.43	0.97	<0.05	<0.02	<0.02	<0.02	20.6	0.79	29.4	35.6				
17/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.020	<0.050	0.026	<0.050	<0.020	<0.050	0.556	0.068	<0.020	<0.020	<0.020	0.216	0.388	1.81	6.24	0.354	0.666	<0.0500	<0.0200	<0.0200	<0.0200	11.9	0.614	18.1	22.8			
2/05/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	0.44	0.2	<0.02	<0.02	<0.02	0.19	0.48	1.6	5.53	0.28	0.66	<0.05	<0.02	<0.02	<0.02	16.5	0.59	22	26.5			
17/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.51	0.3	&																			

T8: Historical Groudwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW112	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.92	<0.2	<0.05	<0.05	<0.05	0.18	<0.05	3.06	3.64	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	<0.05	0.58	0.08	4.22	9.28
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	7.46	1.6	<0.10	<0.10	<0.10	1.06	0.34	19.9	36.2	3.22	6.5	<0.25	<0.10	<0.10	<0.10	2.14	0.58	38.3	79	
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	11.7	0.608	<0.0200	0.028	<0.0200	2.96	9.66	36.5	114	4.89	17.3	<0.0500	<0.0200	<0.0200	0.054	5.45	168	257		
	30/04/2021	<0.75	<0.75	<0.75	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	6.33	<3.8	<0.75	<0.75	<0.75	2.79	7.46	29.1	113	3.92	7.76	<1.88	<0.75	<0.75	<0.75	128	6.4	241	305	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.03	<1.2	<0.05	<0.05	<0.05	1.1	3.82	13.6	50.8	1.98	4.76	<0.12	<0.05	<0.05	<0.05	92	2.3	143	173	
	12/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	1.68	<1.2	<0.25	<0.25	<0.25	0.42	1.22	6.85	24.8	0.92	1.72	<0.62	<0.25	<0.25	<0.25	31.8	0.92	56.6	70.3	
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.04	0.4	<0.05	<0.05	<0.05	0.62	1.35	8.8	25.5	1.23	2.48	<0.12	<0.05	<0.05	<0.05	27.2	1.13	52.7	70.8	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.24	0.6	<0.05	<0.05	<0.05	0.59	1.99	9.6	33.8	1.42	3.71	<0.12	<0.05	<0.05	<0.05	25.5	1.16	59.3	80.6	
	9/10/2023	<0.06	<0.06	<0.06	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	<0.06	<0.15	1.65	<0.06	0.4	<0.06	<0.06	0.5	0.72	6.01	17	1.1	1.99	<0.15	<0.06	<0.06	<0.06	17.8	0.84	34.8	48	
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	0.05	<0.09	<0.04	<0.09	4.62	0.9	<0.04	0.09	<0.04	2.03	6.5	22.4	106	3.04	7.17	<0.09	<0.04	<0.04	0.09	99.4	5.4	205	258	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.28	0.5	<0.02	<0.02	<0.02	0.92	1.06	10	27	1.66	4.84	<0.05	<0.02	<0.02	<0.02	10.9	1.98	37.9	63.1	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.17	1.3	<0.02	<0.02	<0.02	1.07	1.52	8.97	29.4	1.62	4.72	<0.05	<0.02	<0.02	0.02	23.3	1.91	52.7	78	
18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0225	<0.002	<0.0005	0.0011	<0.0005	0.0021	0.0086	0.0188	0.11	0.0032	0.0154	<0.0005	<0.0005	<0.0005	<0.0005	0.224	0.007	0.334	0.411		
2/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0018	<0.001	<0.0005	<0.001	1.54	0.103	<0.0005	0.0032	<0.0005	0.422	1.09	3.19	11.3	0.607	1.65	<0.0005	<0.0005	<0.0005	0.0056	15.6	1	26.9	36.5		
15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.89	0.6	<0.02	<0.02	<0.02	0.49	0.65	4.28	13.2	0.85	1.73	<0.05	<0.02	<0.02	<0.02	10.6	0.99	23.8	35.3		
28/04/2020	<0.05	0.11	<0.05	<0.05	<0.12	<0.05	<0.12	0.02	<0.05	<0.12	2.07	0.7	<0.02	<0.02	<0.02	0.58	1.79	4.23	17.2	0.86	2.02	<0.05	<0.02	<0.02	<0.02	40.2	1.64	57.4	71.4			
11/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.52	0.8	<0.03	<0.03	<0.03	0.69	0.92	5.36	16.4	1.1	2.4	<0.08	<0.03	<0.03	<0.03	14.2	1.42	30.6	45.8		
30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.67	0.7	<0.1	<0.1	<0.1	0.53	0.82	3.8	13.8	0.78	1.89	<0.25	<0.1	<0.1	<0.1	22.6	1.13	36.4	47.7		
11/10/2021	<0.05	0.09	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.21	0.4	<0.02	<0.02	<0.02	0.3	0.7	2.68	9.6	0.52	1.38	<0.05	<0.02	<0.02	<0.02	15.3	0.77	24.9	33		
21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.87	0.9	<0.05	<0.05	<0.05	0.75	1.06	6.15	20	1.23	3.07	<0.12	<0.05	<0.05	<0.05	22.4	1.69	42.4	60.1		
13/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.93	0.3	<0.02	<0.02	<0.02	0.28	0.62	2.66	9.11	0.47	1.15	<0.05	<0.02	<0.02	<0.02	13.5	0.62	22.6	29.6		
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.39	0.5	<0.02	<0.02	<0.02	0.4	0.81	2.82	10.8	0.56	1.73	<0.06	<0.02	<0.02	<0.02	21.2	0.99	32	41.2		
10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.02	<0.05	<0.2	<0.05	<0.05	0.26	0.4	2.04	7.24	0.43	1.06	<0.12	<0.05	<0.05	<0.05	9.87	0.61	17.1	22.9		
14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.2	<0.02	<0.02	<0.02	0.19	0.27	1.54	4.63	0.33	0.59	<0.12	<0.05	<0.05	<0.05	8.55	0.5	13.2	17.4		
MW121	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.87	<0.1	<0.02	<0.02	<0.02	0.04	0.19	2.13	0.04	0.64	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	2.25	4.03			
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	1.49	<0.5	<0.10	<0.10	<0.10	0.22	2.39	<0.10	0.79	<0.25	<0.10	<0.10	<0.10	<0.10	0.32	<0.10	2.71	5.21			
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.82	<0.2	<0.05	<0.05	<0.05	0.16	1.59	<0.05	0.49	<0.12	<0.05	<0.05	<0.05	0.15	<0.05	1.74	3.21			
	18/10/2019	<0.15	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.23	<0.5	<0.10	<0.10	<0.10	0.39	3.12	<0.10	0.84	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	3.24	5.7			
MW122	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.13	0.17		
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1		
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0009	0.0006	0.0075	0.0271	0.0029	0.0048	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0009	0.0326	0.0657	
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0611	<0.002	<0.0005	<0.0005	<0.0005	0.003	0.0063	0.0244	0.152	0.0054	0.0191	<0.0005	<0.0005	<0.0005	<0.0005	0.0664	0.0046	0.218	0.342	
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.04	<0.1	<0.02	<0.02</																

T8: Historical Groudwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																										0.13	220			
PFAS NEMP 2020 Drinking Water																										0.56	0.07			

Location ID	Sample Date	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS	
MW136	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.24	0.96	0.14	0.14	<0.05	<0.02	<0.02	<0.02	0.81	0.04	1.77	2.59	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.22	0.58	0.1	0.07	<0.05	<0.02	<0.02	<0.02	1.15	0.03	1.73	2.33	
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0335	0.006	<0.0005	0.0012	<0.0005	0.0105	0.0152	0.0495	0.218	0.0269	0.0341	<0.0005	<0.0005	<0.0005	0.0012	0.43	0.0125	0.648	0.839	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.11	0.4	0.05	0.05	<0.05	<0.02	<0.02	<0.02	0.45	0.02	0.85	1.17	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.23	0.92	0.07	0.08	<0.05	<0.02	<0.02	<0.02	3.07	0.07	3.99	4.63	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.51	0.64	
	28/04/2021	<0.05	0.18	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.24	0.03	0.02	<0.05	<0.02	<0.02	<0.02	0.61	0.02	0.85	1.21	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.52	0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.36	<0.01	0.88	1.11	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.24	0.04	0.02	<0.05	<0.02	<0.02	<0.02	0.58	<0.01	0.82	0.92	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.37	0.04	0.05	<0.05	<0.02	<0.02	<0.02	0.38	<0.01	0.75	0.89	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.17	0.36	0.07	0.05	<0.05	<0.02	<0.02	<0.02	0.75	0.03	1.11	1.54	
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.07	0.34	0.04	0.04	<0.05	<0.02	<0.02	<0.02	0.45	0.01	0.79	0.95	
	18/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.26	<0.01	0.39	0.46	
	MW140	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
		12/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0236	0.003	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0011	0.0084	0.135	0.0029	0.0146	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.0007	0.139
18/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0247	<0.002	<0.0005	<0.0005	<0.0005	0.0006	0.0014	0.0093	0.0769	0.0017	0.0128	<0.0005	<0.0005	<0.0005	<0.0005	0.0264	0.0009	0.103	0.155	
1/05/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.16	<0.01	0.27	0.35	
16/10/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0405	<0.002	<0.0005	<0.0005	<0.0005	0.0028	0.0084	0.0483	0.139	0.0142	0.0207	<0.0005	<0.0005	<0.0005	<0.0005	0.202	0.0057	0.341	0.482	
29/04/2020		<0.05	0.18	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.27	
10/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.15	
21/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02	
11/10/2021		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
20/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.07	
12/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.07	0.07	
28/04/2023		<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.2	0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.22	0.53	
9/10/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
20/03/2024		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.05	0.07	
MW222		18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.27	0.02	0.27	<0.02	0.04	<0.05	<0.02	<0.02	0.07	<0.01	0.34	0.5
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.27	0.1	<0.02	<0.02	<0.02	0.09	0.23	0.58	5.25	0.12	0.91	<0.05	<0.02	<0.02	<0.02	2.2				

T8: Historical Groudwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	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	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220				
PFAS NEMP 2020 Drinking Water																												0.56	0.07			
Location ID	Sample Date	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
MW224	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.06	0.43	0.09	0.07	<0.05	<0.02	<0.02	0.03	0.36	0.02	0.79	1.33	
	18/04/2018	<0.05	0.13	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.18	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.83	0.08	0.06	<0.12	<0.05	<0.05	0.1	1.2	<0.05	2.03	2.7	
	17/12/2018	<0.002	0.143	0.005	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	0.11	<0.002	<0.0020	<0.0020	<0.0020	0.0762	0.0142	0.191	0.396	0.239	0.0638	<0.0050	<0.0020	<0.0020	0.101	0.329	0.0356	0.725	1.7
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.6	<0.02	0.1	<0.05	<0.02	<0.02	0.03	0.92	0.02	1.52	1.89	
	14/10/2019	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.33	0.12	0.04	<0.05	<0.02	<0.02	0.14	0.5	0.04	0.83	1.52
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.2	<0.02	<0.02	<0.02	0.06	0.2	0.34	2	0.15	0.35	<0.05	<0.02	<0.02	0.04	3.76	0.09	5.76	7.59	
	23/09/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.29	0.13	0.05	<0.05	<0.02	<0.02	0.08	0.34	0.04	0.63	1.27	
	30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.05	0.08	0.19	1.49	0.13	0.28	<0.05	<0.02	<0.02	0.05	1.66	0.05	3.15	4.52	
	13/10/2021	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.08	<0.02	0.17	0.32	0.16	0.06	<0.05	<0.02	<0.02	0.12	0.32	0.04	0.64	1.52	
	12/04/2022	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.14	0.28	0.18	0.05	<0.05	<0.02	<0.02	0.09	0.19	0.04	0.47	1.24	
	12/10/2022	<0.05	0.07	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.09	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.09	0.41	0.08	0.07	<0.06	<0.02	<0.02	0.03	0.32	<0.02	0.73	1.2	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	0.2	<0.02	<0.02	<0.02	0.04	0.21	0.29	2.52	0.11	0.6	<0.05	<0.02	<0.02	<0.02	4.06	0.08	6.58	8.7	
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.52	<0.02	0.2	<0.02	<0.02	0.04	0.21	0.34	2.53	0.09	0.47	<0.06	<0.02	<0.02	<0.02	4.9	0.09	7.43	9.39	
	13/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.48	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.28	1.59	0.06	0.28	<0.05	<0.02	<0.02	<0.02	1.95	0.05	3.54	4.8	
MW226	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0576	0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0026	0.071	0.0023	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.0201	0.0013	0.0911	0.163	
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0533	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0271	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.016	0.0012	0.0431	0.105	
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0219	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0304	<0.0005	0.0049	<0.0005	<0.0005	<0.0005	<0.0005	0.0217	<0.0005	0.0521	0.0804	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0067	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0155	0.0248	
	25/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	<0.01	0.29	0.35	
	23/09/2020	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	19/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.04	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	21/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.08	0.08	
MW227	16/08/2017	<0.05	<0.05	<0.05	<																											

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW241	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	0.08	0.08	
	12/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.384	0.018	<0.0005	<0.0005	<0.0005	0.012	0.0287	0.0887	2.23	0.0386	0.0334	<0.0005	<0.0005	<0.0005	<0.0005	0.0739	0.0046	2.3	2.91	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.875	<0.002	<0.0020	<0.0020	<0.0020	0.0296	0.0342	0.469	3.48	0.073	0.417	<0.0050	<0.0020	<0.0020	<0.0020	0.0984	0.0306	3.58	5.51	
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.3	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	2.62	<0.05	0.32	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	2.74	3.48
	17/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.437	0.016	<0.0005	<0.0005	<0.0005	0.0085	0.0671	0.165	2.19	0.0448	0.318	<0.0005	<0.0005	<0.0005	<0.0005	0.176	0.0111	2.37	3.43	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.2	<0.02	<0.02	<0.02	<0.02	0.04	0.18	2.62	0.04	0.33	<0.05	<0.02	<0.02	<0.02	0.37	<0.01	2.99	4.16	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.2	<0.02	<0.02	<0.02	<0.02	0.04	0.14	2.39	0.04	0.35	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.67	3.79	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.2	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.45	0.02	2.79	3.92	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.13	1.98	0.04	0.32	<0.05	<0.02	<0.02	<0.02	0.26	<0.01	2.24	3.23	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	<0.1	<0.02	<0.02	<0.02	<0.02	0.07	0.24	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.44	0.04	2.78	3.84	
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.31	0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.19	1.94	0.05	0.29	<0.05	<0.02	<0.02	<0.02	0.28	0.01	2.22	3.21	
	27/04/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	0.3	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	1.98	0.05	0.27	<0.24	<0.1	<0.1	<0.1	0.31	<0.1	2.29	3.24	
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.02	0.1	<0.02	<0.02	<0.02	0.03	0.21	1.54	0.06	0.26	<0.05	<0.02	<0.02	<0.02	0.24	0.02	1.78	2.78	
	14/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.44	0.1	<0.02	<0.02	<0.02	0.03	0.11	0.34	2.99	0.08	0.42	<0.05	<0.02	<0.02	<0.02	1.26	0.06	4.25	5.83	
MW242	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.15	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	0.68	<0.05	0.12	<0.12	<0.05	<0.05	<0.05	1.06	0.05	1.74	2.3	
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.21	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.02	0.43	0.52		
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.21	0.016	<0.0020	<0.0020	<0.0020	0.0092	0.0456	0.172	1.89	0.0372	0.092	<0.0050	<0.0020	<0.0020	<0.0020	0.489	0.0224	2.38	2.98	
	1/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0263	0.003	<0.0005	<0.0005	<0.0005	0.0037	0.0142	0.0292	0.178	0.0071	0.0226	<0.0005	<0.0005	<0.0005	<0.0005	0.238	0.0088	0.416	0.531	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.06	0.51	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.56	0.02	1.07	1.34	
	29/04/2020	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.5	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.26	0.01	0.76	1.04		
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.4		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.2	0.01	0.45	0.59		
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.33	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.17	<0.01	0.5	0.67		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.4	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.16	0.01	0.56	0.79		
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.17	0.89	0.03	0.11	<0.05	<0.02	<0.02	<0.02	0.39	0.02	1.28	1.63	
	27/04/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.48	<0.1	<0.1	<0.24	<0.1	<0.1	<0.1	0.21	<0.1	0.69	0.69		
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	0.12	0.66	0.03	0.09	<0.05	<0.02	<0.02	<0.02	0.35	0.03	1.01	1.42	
	15/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.26	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.35	0.5		
MW243	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	19.5	0.8	<0.05	<0.05	<0.05	0.98	1.24	9.38	55.7	2.68	10.9	<0.12	<0.05	<0.05	<0.05	1.77	0.98	57.5	104	
	17/04/2018	<0.10	3.15	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	162	29.3	<0.10	<0.10	<0.10	37	76.9	302	1,010	53.1	164	<0.25	<0.10	<0.10	<0.10	366	49.2	1,380	2,250	
	17/12/2018	<0.020	0.132	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	6.4	0.354	<0.0200	<0.0200	<0.0200	1.13	1.84	11.4	29.5	2.02	4.27	<0.0500	<0.0200	<0.0200	<0.0200	12	1.97	41.5	71	
	17/10/2019	<0.10	1.83	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	106	21.1	<0.10	<0.10	<0.10	26.4	35.6	232	747	41.4	106	<0.25	<0.10	<0.10	0.21	314	44.7	1,060	1,680	
	29/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	9.52	2.4	<0.25	<0.25	<0.25	2.42	3.22	23.3	59.6	5.1	8.98	<0.62	<0.25	<0.25	<0.25	92.4	3.8	152	211	
	9/09/2020	<																														

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	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					
LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																0.56	0.07	
Location ID	Sample Date																													Sum of PFOS and PFHxS	Sum of PFAS			
MW245	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7	0.3	<0.02	<0.02	<0.02	0.33	1.48	3.73	20	1.09	4.39	<0.05	<0.02	<0.02	<0.02	4.7	0.55	24.7	43.6			
	24/01/2018	-	2.02	-	-	-	-	-	-	-	-	-	31.2	24.6	-	-	-	20.5	20.5	-	357	18.6	44.6	-	-	-	-	59.1	32.6	416	686			
	17/04/2018	<0.05	<0.10	<0.10	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	18.5	8.3	<0.02	<0.02	<0.02	13.2	9.32	54.4	259	8.59	30.4	<0.81	<0.32	<0.32	<0.32	0.11	59.6	21	319	486		
	17/12/2018	<0.020	0.77	0.14	<0.020	<0.050	<0.0200	<0.050	0.078	<0.050	<0.0200	<0.050	11.6	1.18	0.022	<0.0200	<0.0200	6.89	6.07	26.3	114	6.33	12.8	<0.0500	<0.0200	<0.0200	0.12	30.9	11.3	145	228			
	1/05/2019	<0.05	0.44	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	16.2	6.4	<0.02	<0.02	<0.02	8.42	7.09	46.5	123	8.73	27.7	<0.05	<0.02	<0.02	0.07	37.1	12.9	160	294			
	15/10/2019	<0.05	1.2	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	56.9	17.2	<0.02	<0.02	<0.02	24.8	10.7	151	352	31	57	<0.05	<0.02	<0.02	0.09	33.8	24.9	386	760			
	27/04/2020	<0.24	0.76	<0.24	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	16.7	6.9	<0.24	<0.24	<0.24	11.3	6.89	50.3	168	9.09	23	<0.60	<0.24	<0.24	<0.24	43.1	12.9	211	349			
	7/09/2020	<0.32	0.52	<0.32	<0.32	<0.81	<0.32	<0.81	<0.32	<0.81	<0.32	<0.81	28	12.4	<0.32	<0.32	<0.32	10.9	6.78	84.2	139	16.3	28	<0.81	<0.32	<0.32	<0.32	29.7	14.2	169	370			
	30/04/2021	<0.47	0.57	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	9.06	4	<0.47	<0.47	<0.47	6.51	8.16	29.2	114	5.99	13.4	<1.18	<0.47	<0.47	<0.47	47.1	12.9	161	251			
	13/10/2021	<0.48	2.48	<0.48	<0.48	<1.2	<0.48	<1.2	<0.48	<1.2	<0.48	<1.2	32.2	12.2	<0.48	<0.48	<0.48	21.1	21.8	114	328	17.6	50.5	<1.2	<0.48	<0.48	<0.48	81.7	33.4	410	715			
	12/04/2022	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	16.4	4.8	<0.48	<0.48	<0.48	7.62	8.1	50.8	138	8.9	21.3	<1.19	<0.48	<0.48	<0.48	66.8	13.2	205	336			
	12/10/2022	<0.24	0.49	0.41	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	16	6.1	<0.24	<0.24	<0.24	7.15	4.9	57.3	91.2	9.61	19.3	<0.61	<0.24	<0.24	<0.24	37.7	8.27	129	258			
	4/05/2023	<0.22	0.47	0.51	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	16.9	5.3	<0.22	<0.22	<0.22	7.78	7.82	47.4	109	10.1	24.6	<0.56	<0.22	<0.22	0.27	49.1	9.84	158	289			
	11/10/2023	<0.25	<0.25	<0.35	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	8.08	<0.25	1.2	<0.25	<0.25	3.2	3.28	20.3	54.3	4.2	9.98	<0.62	<0.25	<0.25	<0.25	26.2	4.38	80.5	135			
	25/03/2024	<0.05	0.09	0.09	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	4.09	1.1	0.05	<0.02	<0.02	2.05	1.71	11.7	28	2.48	5.43	<0.05	<0.02	<0.02	0.07	15.4	2.47	43.4	74.8			
MW255	24/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.48	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.34	<0.05	0.82	0.95				
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	<0.02	0.2	0.24			
	4/12/2018	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0667	0.009	<0.0005	<0.0005	<0.0005	0.0069	0.0081	0.02	0.126	0.0134	0.014	<0.0005	<0.0005	<0.0005	0.0024	0.255	0.0189	0.381	0.543			
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.005	<0.002	<0.0005	<0.0005	<0.0005	0.0056	0.0007	0.015	0.0116	0.0138	0.0017	<0.0005	<0.0005	<0.0005	0.0005	0.0076	0.0111	0.0192	0.0726			
	3/05/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.012	0.026	-	0.005	-	-	-	-	0.0135	0.0031	0.0382	0.097			
	25/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	0.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.8			
	29/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.08
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.07	0.11
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.03	0.05
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02
	19/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.03	0.03
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.01
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.01
MW265	23/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	0.2	0.09	0.1	-	-	-	-	-	-	0.2	0.52			
	17/04/2018	-	-	<0.10	-	-	-	-	-	-	-	-	1.81	-	-	-	-	<0.10	-	<0.47	2.22	0.13	0.78	-	-	-	-	24	<0.10	2.46	5.65			
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	2.52	<0.002	<0.0020	<0.0020	<0.0020	0.0578	0.061	0.764	5.8	0.127	1.22	<0.0050	<0.0020	<0.0020	<0.0020	0.439	0.0566	6.24	11			
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.64	<0.2																				

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	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	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01						
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220		
PFAS NEMP 2020 Drinking Water																																0.56	0.07		
Location ID	Sample Date																																		
MW205	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.72	<0.02	0.2	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.74	1.39	
	13/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.0005	0.0005	0.0317	0.154	0.0044	0.0456	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0058	<0.0005	0.16	0.38
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.138	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0005	0.0036	0.009	0.174	<0.0020	0.0162	<0.0050	<0.0020	<0.0020	<0.0020	0.13	0.0026	0.304	0.457	
	6/05/2019	<0.002	0.057	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	0.0642	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	0.009	0.174	<0.0020	0.0162	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.13	0.0026	0.304	0.457		
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.06	0.2	
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.08	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.08	0.26		
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.28	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	0.2	0.01	0.48	0.67		
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.11	0.28			
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.08	0.22			
	8/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.04	<0.01	0.07	0.11				
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.07				
	10/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.03				
	19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.04				
	MW206	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.23	0.3	<0.02	<0.02	<0.02	0.22	0.21	3.75	15.9	1.02	2.13	<0.05	<0.02	<0.02	<0.02	0.04	0.08	15.9	26.9			
		16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.77	0.2	<0.02	<0.02	<0.02	0.09	0.05	1.5	4.54	0.26	0.74	<0.05	<0.02	<0.02	<0.02	<0.01	0.03	4.54	8.18			
11/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.133	<0.002	<0.0005	<0.0005	<0.0005	0.0293	0.0067	0.13	0.503	0.0651	0.0672	<0.0005	<0.0005	<0.0005	<0.0005	0.0265	0.0057	0.53	0.966				
6/05/2019		<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.234	<0.002	<0.0005	<0.0005	<0.0005	0.0227	0.0099	0.532	1.06	0.0852	0.281	<0.0005	<0.0005	<0.0005	<0.0005	0.0277	0.0053	1.09	2.26				
23/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	<0.1	<0.02	<0.02	<0.02	0.13	0.03	2.66	6.12	0.54	1.19	<0.05	<0.02	<0.02	<0.02	0.04	6.12	12.2					
17/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.07	0.3	<0.02	<0.02	<0.02	0.07	0.02	1.56	3.52	0.35	0.72	<0.05	<0.02	<0.02	<0.02	0.01	0.02	3.53	7.64				
14/09/2020		<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	1.65	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.75	7	0.65	1.05	<1.25	<0.5	<0.5	<0.5	<0.5	0.09	<0.5	7	14.1			
27/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.73	2.92	0.11	0.34	<0.05	<0.02	<0.02	<0.02	0.09	0.02	3.01	4.59				
12/10/2021		<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	2.5	1	<0.1	<0.1	<0.1	0.37	0.15	5.42	12.1	0.99	2.32	<0.24	<0.1	<0.1	<0.1	0.15	0.13	12.2	25.1				
14/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.76	0.6	<0.02	<0.02	<0.02	0.25	<0.11	4.26	9.56	0.84	1.86	<0.05	<0.02	<0.02	<0.02	<0.04	0.08	9.56	19.2				
6/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.66	0.5	<0.02	<0.02	<0.02	0.26	0.12	3.88	9.24	0.78	1.64	<0.05	<0.02	<0.02	<0.02	<0.01	0.09	9.24	18.2				
21/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.1	<0.02	<0.02	<0.02	0.08	0.04	1.08	2.99	0.18	0.43	<0.05	<0.02	<0.02	<0.02	0.03	0.03	3.02	5.3				
10/10/2023		<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	2.05	<0.02	0.7	<0.02	<0.02	0.33	0.17	5.03	12.4	0.91	1.98	<0.06	<0.02	<0.02	<0.02	<0.02	0.12	0.12	12.4	23.7			
25/03/2024		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.65	0.1	<0.02	<0.02	<0.02	0.08	0.03	1.14	2.74	0.23	0.49	<0.05	<0.02	<0.02	<0.02	0.12	0.02	2.86	5.6				
MW207		17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.14	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.22				
		13/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.05	0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.0019	0.0074	<0.0005	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.0116	0.0229			
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0075	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	0.0074	<0.0005	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.0116	0.0229					
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0043	<0.00																					

T8: Historical Groundwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																										0.13	220			
PFAS NEMP 2020 Drinking Water																											0.56	0.07		

Location ID	Sample Date	4:2 FTS	6:2 FIS	6:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS			
MW262	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0028	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0058	0.0062	0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0005	0.0062	0.0217	
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0048	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0052	<0.0005	0.0567	0.0395	0.0104	0.0117	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0003	0.0027	0.0398	0.131
	21/04/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.05	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.05	0.21	
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.12	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	0.01	0.14	0.42	
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.4	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.1	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.1	0.2		
	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.19	0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.09	0.44	1.69	0.09	0.16	<0.05	<0.02	<0.02	<0.02	0.38	0.29	2.07	3.51	
	18/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.08	
MW263	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.48	0.03	0.06	<0.05	<0.02	<0.02	<0.02	0.68	0.06	1.16	1.49			
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.04	0.68	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.41	0.03	1.09	1.35			
	3/12/2018	<0.001	0.01	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.105	0.003	<0.0005	<0.0005	<0.0005	0.0242	0.0035	0.0605	0.431	0.0309	0.0668	<0.0005	<0.0005	<0.0005	0.005	0.369	0.0358	0.8	1.14			
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0803	<0.002	<0.0005	<0.0005	<0.0005	0.0173	0.0092	0.0738	0.482	0.0048	0.0579	<0.0005	<0.0005	<0.0005	0.0015	0.261	0.0201	0.743	1.01			
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.23	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.25	0.02	0.48	0.62			
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.35	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.33	0.02	0.68	0.85			
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	<0.05	0.28	<0.05	<0.12	<0.05	<0.05	<0.05	0.22	<0.05	0.5	0.55			
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.39	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.21	<0.02	0.6	0.75			
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	0.17	0.17	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.18	<0.02	0.35	0.35			
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.17	0.01	0.35	0.42			
	6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.21	0.24			
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.01	0.21	0.28			
13/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.21	0.27				
20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.17	0.17				
MW264	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	<0.01	<0.01	0.02	0.02			
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.351	0.03	<0.0005	<0.0005	<0.0005	0.031	0.0132	0.076	0.904	0.103	0.222	<0.0005	<0.0005	<0.0005	<0.0005	0.0438	0.017	0.948	1.79			
	13/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.227	<0.002	<0.0005	<0.0005	<0.0005	0.02	0.0055	0.0484	0.468	0.0496	0.074	<0.0005	<0.0005	<0.0005	<0.0005	0.0136	0.0071	0.482	0.913			
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.199	0.026	<0.0005	<0.0005	<0.0005	0.0214	0.0151	0.039	0.648	0.0331	0.168	<0.0005	<0.0005	<0.0005	<0.0005	0.0728	0.0171	0.721	1.24			
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.251	0.019	<0.0005	<0.0005	<0.0005	0.0181	0.0202	0.0355	0.808	0.0344	0.156	<0.0005	<0.0005	<0.0005	<0.0005	0.063	0.0143	0.871	1.42			
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.29	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.29	0.45			
	14/09/2																																	

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS
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
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																													
NHMRC - Recreational Use - Surface Water																													

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
On-Base Bohle River/Louisa Creek/Town Common																															
SW131	2/03/2018	<0.002	0.008	0.003	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.172	0.12	<0.0020	<0.0020	<0.0020	0.0454	0.091	0.411	1.72	0.0236	0.172	<0.0050	<0.0020	<0.0020	0.0034	3.80	0.122	5.52	
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.163	0.041	<0.0020	<0.0020	<0.0020	0.0436	0.085	0.398	1.63	0.0822	0.159	<0.0050	<0.0020	<0.0020	0.003	4.07	0.116	5.70	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.106	0.078	<0.0100	<0.0100	<0.0100	0.033	0.092	0.439	1.04	0.075	0.097	<0.0250	<0.0100	<0.0100	<0.0100	3.50	0.111	4.54	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.101	0.076	<0.0100	<0.0100	<0.0100	0.039	0.088	0.454	1.05	0.062	0.093	<0.0250	<0.0100	<0.0100	<0.0100	3.76	0.113	4.21	
	4/03/2018	<0.002	0.019	<0.002	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.208	0.023	<0.0020	<0.0020	<0.0020	0.0536	0.139	0.486	1.9	0.113	0.168	<0.0050	<0.0020	<0.0020	<0.0020	4.98	0.142	6.88	
	4/03/2018	<0.002	0.013	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.196	0.02	<0.0020	0.0078	<0.0020	0.0542	0.131	0.476	2.14	0.11	0.149	<0.0050	<0.0020	<0.0020	<0.0020	5.02	0.133	7.16	
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.123	0.267	<0.0100	<0.0100	<0.0100	0.053	0.115	0.527	1.2	0.064	0.12	<0.0250	<0.0100	<0.0100	<0.0100	3.89	0.125	5.09	
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.245	0.095	<0.0100	<0.0100	<0.0100	0.048	0.114	0.475	1.7	0.111	0.213	<0.0250	<0.0100	<0.0100	<0.0100	4.50	0.176	6.20	
	19/04/2018	<0.001	0.014	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0022	<0.001	<0.0005	<0.001	0.219	0.017	0.001	0.0068	<0.0005	0.0875	0.149	0.714	2.28	0.116	0.234	<0.0005	<0.0005	<0.0005	0.0028	2.71	0.142	4.99	
	19/04/2018	<0.001	0.009	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.107	0.023	<0.0005	<0.0005	<0.0005	0.0611	0.002	0.752	<0.0005	0.128	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.077	0.001	
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.064	<0.020	<0.0200	<0.0200	<0.0200	0.0200	0.032	0.106	0.42	0.03	0.058	<0.0500	<0.0200	<0.0200	<0.0200	1.03	0.03	1.45	
	29/04/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0013	<0.001	<0.0005	<0.001	0.125	0.045	0.0007	0.0034	<0.0005	0.034	0.0662	0.348	1.07	0.0582	0.125	<0.0005	<0.0005	<0.0005	0.002	1.95	0.0889	3.02	
	18/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0019	<0.001	<0.0005	<0.001	0.231	0.034	0.0009	0.0112	<0.0005	0.0503	0.0766	0.447	1.56	0.101	0.213	<0.0005	<0.0005	<0.0005	0.0032	2.23	0.0918	3.79	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	0.2	<0.02	<0.02	<0.02	0.13	0.33	1.24	4.52	0.34	0.48	<0.05	<0.02	<0.02	<0.02	7.41	0.28	11.90	
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.38	0.09	0.04	<0.05	<0.02	<0.02	<0.02	0.94	0.02	1.32	
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.07	0.38	1.24	0.11	0.15	<0.05	<0.02	<0.02	<0.02	2.62	0.07	3.86
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.1	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.19	1.18	0.03	0.1	<0.06	<0.02	<0.02	<0.02	2.66	0.05	3.84	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	<0.1	<0.02	<0.02	<0.02	0.06	0.18	0.77	2.58	0.15	0.33	<0.05	<0.02	<0.02	<0.02	4.02	0.16	6.60	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.2	<0.02	<0.02	<0.02	0.09	0.12	0.91	2.52	0.18	0.32	<0.05	<0.02	<0.02	<0.02	2.68	0.16	5.20	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	0.1	<0.02	<0.02	<0.02	0.06	0.12	0.59	1.99	0.11	0.27	<0.05	<0.02	<0.02	<0.02	2.29	0.11	4.28	
	13/04/2022	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.28	0.9	0.06	0.1	<0.05	<0.02	<0.02	<0.02	1.53	0.06	2.43	
	19/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.09	0.13	0.94	2.41	0.16	0.34	<0.05	<0.02	<0.02	<0.02	1.63	0.14	4.04	
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.04	0.07	0.28	1.14	0.07	0.18	<0.05	<0.02	<0.02	<0.02	1.21	0.07	2.35	
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.05	0.07	0.49	1.4	0.1	0.21	<0.05	<0.02	<0.02	<0.02	1.64	0.08	3.04	
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	0.03	0.05	0.29	0.91	0.06	0.14	<0.05	<0.02	<0.02	<0.02	1.05	0.05	1.96	
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	0.06	0.08	0.56	1.46	0.14	0.23	<0.05	<0.02	<0.02	<0.02	2	0.08	3.46	
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	<0.02	<0.02	<0.02	0.06	0.11	0.66	1.93	0.14	0.3	<0.05	<0.02	<0.02	<0.02	2.57	0.1	4.5	
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.22	<0.2	<0.02	<0.02	<0.02	0.05	0.06	0.54	1.38	0.12	0.2	<0.06	<0.02	<0.02	<0.02	1.29	0.08	2.67	
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.56	2.09	0.11	0.2	<0.05	<0.02	<0.02	<0.02	1.77	0.08	3.86	
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.42	0.1	<0.02	<0.02	<0.02	0.11	0.14	1.11	3.01	0.23	0.37	<0.06	<0.02	<0.02	<0.02	3.42			

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSSE	FOSA	MeFOSA	MeFOSAA	MeFOSSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	
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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSSE	FOSA	MeFOSA	MeFOSAA	MeFOSSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	
SW125	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.1	<0.02	<0.02	<0.02	0.12	0.11	1.08	3.14	0.2	0.52	<0.05	<0.02	<0.02	<0.02	<0.02	2.07	0.18	5.21
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.1	<0.02	<0.02	<0.02	0.11	0.19	1.09	3.62	0.19	0.39	<0.05	<0.02	<0.02	<0.02	3.07	0.17	6.69	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.96	<0.02	0.18	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	0.03	<0.01
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0378	<0.002	<0.0020	<0.0020	<0.0020	0.0066	0.0198	0.0732	0.326	0.0168	0.0262	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.565	0.0198	0.891
	1/05/2019	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0076	<0.001	<0.0005	<0.001	1.02	0.051	0.0019	0.0027	<0.0005	0.246	0.56	3.43	9.73	0.548	1.07	<0.0005	<0.0005	<0.0005	0.0125	9.98	0.594	19.70	
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.16	0.4	<0.02	<0.02	<0.02	0.28	0.34	3.38	9.34	0.71	0.83	<0.05	<0.02	<0.02	<0.02	5.09	0.42	14.40	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.08	0.33	0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.60	0.02	0.93	
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.29	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.59	<0.05	0.88	
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.08	0.32	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.77	0.02	1.09	
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.48	0.3	<0.02	<0.02	<0.02	<0.02	0.14	0.24	1.6	4.96	0.26	0.72	<0.05	<0.02	<0.02	<0.02	4.61	0.23	9.57
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.68	<0.2	<0.05	<0.05	<0.05	0.14	0.2	1.49	3.8	0.32	0.4	<0.12	<0.05	<0.05	<0.05	6.74	0.26	10.50	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.1	<0.02	<0.02	<0.02	0.08	0.16	1.21	2.56	0.22	0.43	<0.05	<0.02	<0.02	<0.02	3.78	0.12	6.34	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.67	0.2	<0.02	<0.02	<0.02	0.14	0.12	1.77	4.59	0.32	0.72	<0.06	<0.02	<0.02	<0.02	1.38	0.16	5.97	
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	7.19	2	<0.02	0.09	<0.02	0.86	2.2	11.1	26	3.3	5.35	<0.05	<0.02	<0.02	<0.02	45.8	0.98	71.8	
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	3.68	0.9	<0.02	<0.08	<0.02	0.87	3.48	8.43	27.5	1.75	4.28	<0.05	<0.02	<0.02	<0.02	50.1	1.23	77.6	
	19/04/2023	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	9.45	<2.5	<0.5	<0.5	<0.5	2.05	3.3	18.8	56.3	3.95	9.7	<1.25	<0.5	<0.5	<0.5	176	2.3	232	
	20/04/2023	<0.24	<0.24	<0.24	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	7.6	2	<0.24	<0.24	<0.24	1.66	2.42	16.7	45.1	3.3	8.14	<0.59	<0.24	<0.24	<0.24	75.3	1.71	120	
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	3.41	0.5	<0.04	<0.04	<0.04	0.59	1.28	6.96	17.6	1.37	3.57	<0.1	<0.04	<0.04	<0.04	23.4	0.65	41	
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.95	0.2	<0.02	<0.02	<0.02	0.33	0.13	3.2	8.27	0.51	1.12	<0.05	<0.02	<0.02	<0.02	3.48	0.32	11.8	
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	3.65	0.9	<0.02	<0.02	<0.02	0.72	0.44	9.02	12.2	1.54	3.04	<0.06	<0.02	<0.02	<0.02	6.16	0.54	18.4	
13/01/2024	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.05	0.7	<0.1	<0.1	<0.1	0.57	1.13	6.71	20.5	1.26	2.77	<0.25	<0.1	<0.1	<0.1	30.8	0.91	51.3		
14/01/2024	<0.08	<0.08	<0.08	<0.08	<0.21	<0.08	<0.21	<0.08	<0.21	<0.08	<0.21	2.29	<0.4	<0.08	<0.08	<0.08	0.32	0.65	4.4	13.6	0.84	2.05	<0.21	<0.08	<0.08	<0.08	19.2	0.49	32.8		
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.98	0.6	<0.02	<0.02	<0.02	0.52	0.46	5.31	11.8	0.97	1.72	<0.06	<0.02	<0.02	<0.02	9.36	0.73	21.2		
20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	<0.1	<0.02	0.03	<0.02	0.14	0.4	1.42	6.59	0.25	0.77	<0.05	<0.02	<0.02	<0.02	11.4	0.28	18		
SW123	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	0.03	14.30	0.64	25.30	
	1/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.122	0.012	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	1.57	0.0652	2.44	
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.397	0.038	<0.0020	<0.0020	<0.0020	0.0582	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.152	6.38	
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.143	0.02	<0.0020	<0.0020	<0.0020	0.041	0.079	0.341	1.54	0.0764	0.142	<0.0050	<0.0020	<0.0020	0.0026	3.17	0.107	4.71	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.489	0.148	<0.0100	<0.0100	<0.0100	0.109	0.346	1.21	2.87	0.254	0.409	<0.0250	<0.0100	<0.0100	<0.0100	7.02	0.307	9.89	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.012	<0.025	<0.0100	<0.025	0.544	0.22	<0.0100	<0.0100	<0.0100	0.137	0.376	1.41	3.54	0.269	0.463	<0.0250	<0.0100	<0.0100	<0.0100	7.33	0.345	10.90	

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	220	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
SW112	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.04	0.10	
	19/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.0311	<0.002	0.0034	<0.0005	<0.0005	0.0093	0.0063	0.0558	0.136	0.0376	0.0146	<0.0005	<0.0005	<0.0005	0.0014	0.166	0.0384	0.302	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	0.0061	<0.0005	0.0505	<0.0005	0.036	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0087	<0.0003	
	20/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0007	<0.001	<0.0005	<0.001	0.0459	<0.002	0.0041	<0.0005	<0.0005	0.0082	0.0093	0.0664	0.111	0.0431	0.0115	<0.0005	<0.0005	<0.0005	0.0018	0.283	0.0297	0.394	
	3/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0316	<0.002	0.0014	<0.0005	<0.0005	0.0045	0.0044	0.0153	0.0574	0.0193	0.0089	<0.0005	<0.0005	<0.0005	0.0007	0.102	0.0151	0.159	
	25/10/2019	<0.001	0.019	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	0.0009	<0.0005	<0.0005	0.0055	0.0018	0.0314	0.0275	0.0361	0.0032	<0.0005	<0.0005	<0.0005	<0.0005	0.0479	0.0115	0.0754	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.16	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.10	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.24	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.07	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.09	
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.1
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.02	0.24	
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.01	0.25	
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.26	
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.01	0.24	
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.01	0.26	
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	0.03	<0.01	0.05	
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.12	
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	0.02	0.11	
13/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.01	0.24		
14/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.24		
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.2		
14/08/2017	<0.05	0.48	2.19	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	5.37	2.7	0.13	0.04	<0.02	1.53	2.56	14.8	33.1	5	5.61	<0.05	<0.02	<0.02	0.74	35.60	4.88	68.70		
14/08/2017	<0.05	1.09	1.19	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	3.86	2.3	0.1	<0.02	<0.02	1.53	1.03	11	26.8	3.3	4.26	<0.05	<0.02	<0.02	0.51	31.80	3.00	58.60		
19/04/2018	<0.05	0.13	0.82	<0.05	<0.05	<0.02	<0.05	0.19	<0.05	<0.02	<0.05	12	3.6	0.08	0.04	<0.02	2.8	5.95	23.9	69	5.3	11	<0.05	<0.02	<0.02	0.31	62.00	4.40	131.00		
19/12/2018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	0.578	<0.020	0.034	0.007	<0.002	0.224	0.324	1.15	4.07	0.298	0.484	<0.005	<0.002	0.004	0.082	6.26	0.546	11.40		
19/12/2018	-	0.168	1	-	-	-	-	0.068	-	-	-	0.904	2.21	0.097	0.026	-	4.72	0.336	11.8	5.6	4.9	0.759	-	-	<0.0200	0.456	7.28	2.74	11.90		
1/05/2019	<0.001	<0.005	0.011	<0.001	<0.001	<0.0005	<0.001	<0.002	<0.001	<0.0005	<0.001	2.31	0.225	0.0093	<0.002	0.0007	0.532	0.783	4.16	12.2	1.1	2.31	<0.0005	<0.0005	0.002	0.0338	10.50	0.787	23.20		
1/05/2019	-	0.011	0.139	-	-	-	-	0.037	-	-	-	2.48	1.83	0.014	0.011	<0.002	1.15	1.35	9.03	12.7	2.31	2.43	-	-	-	0.088	13.40	0.932	25.60		
29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	0.1	<0.02	<0.02	<0.02	<0.02	0.17	0.26	1.32	0.07	0.11	<0.05	<0.02	<0.02	<0.02	4.72	0.08	6.04		
30/01/2020	<0.05	<0.05	0.06	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.47	<0.2	<0.05	<0.05	<0.05	0.08	0.24	0.84	3.88	0.19	0.42	<0.12	<0.05	<0.05	<0.05	5.21	0.20	9.09		
31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.7	0.3	<0.05	<0.05	<0.05	0.12	0.43	1.7	6.09	0.36	0.66	<0.12	<0.05	<0.05	<0.05	8.24	0.31	14.30		
30/04/2020	<0.05	<0.05	0.4	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.86																			

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA		
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		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01		
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																													0.13	220	
NHMRC - Recreational Use - Surface Water																													10	2	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA		
SW016	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.22	0.1	0.04	<0.05	<0.02	<0.02	<0.02	0.28	0.04	0.50		
	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0211	<0.002	0.0006	<0.0005	<0.0005	0.012	0.003	0.0241	0.0769	0.0119	0.0092	<0.0005	<0.0005	<0.0005	0.0005	0.0885	0.0062	0.165		
	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	0.0241	<0.0005	0.0105	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0023	<0.0003
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	0.007	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.0282	0.0056	0.0022	<0.0050	<0.0020	<0.0020	<0.0020	0.0324	0.0028	0.0606	
	29/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0503	<0.002	<0.0005	<0.0005	<0.0005	0.0613	0.0127	0.0579	0.136	0.009	0.0249	<0.0005	<0.0005	<0.0005	0.0007	0.101	0.0141	0.237		
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	0.34		
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.16		
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.10	<0.01	0.13		
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.49	1.96	0.05	0.22	<0.05	<0.02	<0.02	<0.02	0.48	0.08	2.44		
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.52	<0.2	<0.05	<0.05	<0.05	0.12	<0.05	1.03	1.4	0.32	0.24	<0.12	<0.05	<0.05	<0.05	1.54	0.10	2.94		
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	0.51	0.19	0.14	0.34	0.3	0.05	<0.05	<0.02	<0.02	<0.02	0.61	0.03	0.95		
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.93	0.3	<0.02	<0.02	<0.02	0.11	<0.02	1.56	0.93	0.38	0.4	<0.05	<0.02	<0.02	<0.02	0.09	0.02	1.02		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	0.47	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.24	0.03	0.71		
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	0.7	<0.02	0.03	<0.02	0.03	0.08	0.31	1.28	0.11	0.14	<0.05	<0.02	<0.02	<0.02	1.35	0.06	2.63		
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.22	<0.8	<0.02	<0.02	<0.02	0.06	0.12	0.56	2.45	0.16	0.18	<0.05	<0.02	<0.02	<0.02	1.53	0.1	3.98		
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.68	<0.5	<0.02	<0.02	<0.02	0.22	0.49	1.89	8.78	0.39	0.63	<0.06	<0.02	<0.02	<0.02	5.09	0.38	13.9		
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	<0.3	<0.02	<0.02	<0.02	0.09	0.19	0.84	3.09	0.18	0.23	<0.05	<0.02	<0.02	<0.02	2.5	0.14	5.59		
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.3	<0.02	<0.02	<0.02	0.06	0.1	0.5	1.96	0.11	0.15	<0.05	<0.02	<0.02	<0.02	1.37	0.08	3.33		
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.23	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	0.01	0.48			
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.19	<0.01	0.27			
13/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.19	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.39	0.02	0.58				
14/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.17	<0.01	0.23				
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.03	0.35	<0.02	<0.02	<0.05	<0.02	<0.02	0.56	0.04	0.91				
20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.18	<0.01	0.25			
SW014	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.12			
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	0.006	0.0007	<0.0005	<0.0005	0.0038	0.0019	0.0102	0.034	0.0089	0.0041	<0.0005	<0.0005	<0.0005	0.0006	0.031	0.0069	0.065		
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0097	<0.0005	0.0085	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0018	<0.0003		
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0123	<0.002	0.0009	<0.0005	<0.0005	0.0078	<0.0005	0.0043	0.0091	0.0054	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.0087	0.0033	0.0178		
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.016	<0.002	0.0008	<0.0005	<0.0005	0.0043	0.0027	0.0079	0.0436	0.0057	0.0073	<0.0005	<0.0005	<0.0005	0.0013	0.0547	0.0055	0.0983		
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0478	<0.002	0.0016	<0.0005	<0.0005	0.0118	0.0103	0.0366	0.157	0.0218	0.0203	<0.0005	<0.0005	<0.0005	0.0021	0.13	0.0131	0.287		
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.03	0.04	<0.02	<0.05	<0.02	<0.02	0.05	0.01	0.08			
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<													

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTsDA	PFTtDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS
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
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																													
NHMRC - Recreational Use - Surface Water																													

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTsDA	PFTtDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS
On-Base Mundy Creek Catchment																														
SW001	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.11	1	<0.02	<0.02	<0.02	1	2.65	7.26	22.8	1.98	4.69	<0.05	<0.02	<0.02	0.22	59.90	2.96	82.70
	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.99	0.9	<0.02	<0.02	<0.02	1.03	1.24	6.17	19.1	1.32	3.68	<0.05	<0.02	<0.02	0.13	48.10	1.78	67.20
	19/04/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7.02	2.1	<0.02	0.04	<0.02	2.48	2.11	14.3	34.8	2.81	6.44	<0.05	<0.02	<0.02	0.21	50.60	4.66	85.40
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.22	0.312	<0.0200	<0.0200	<0.0200	0.584	0.6	3.35	8.83	0.644	1.27	<0.0500	<0.0200	<0.0200	0.078	14.60	1.37	23.40
	2/05/2019	<0.001	0.011	0.003	<0.001	<0.001	<0.0005	<0.001	0.0065	<0.001	<0.0005	<0.001	1.17	0.13	0.0018	0.044	<0.0005	0.466	0.594	2.54	5.31	0.507	1.63	<0.0005	<0.0005	<0.0005	0.0406	11.50	1.03	16.80
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.3	<0.02	<0.02	<0.02	0.25	0.2	1.6	3.65	0.36	0.53	<0.05	<0.02	<0.02	0.03	5.89	0.44	9.54
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.14	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.47	0.02	0.61
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	0.2	<0.02	<0.02	<0.02	0.09	0.1	0.58	1.79	0.2	0.26	<0.05	<0.02	<0.02	<0.02	3.22	0.20	5.01
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.3	<0.02	<0.02	<0.02	0.08	0.08	0.5	1.39	0.18	0.19	<0.05	<0.02	<0.02	<0.02	2.53	0.15	3.92
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.45	3.85	0.27	0.62	<0.05	<0.02	<0.02	<0.02	7.33	0.31	11.20
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.29	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.74	2.15	0.11	0.31	<0.09	<0.04	<0.04	<0.04	4.66	0.19	6.81
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.11	0.06	0.34	0.81	0.12	0.14	<0.05	<0.02	<0.02	<0.02	1.56	0.14	2.37
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.01	0.2	<0.02	<0.04	<0.02	0.32	0.54	2.46	5.44	0.39	1.15	<0.05	<0.02	<0.02	0.05	10.40	0.68	15.80
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	1.77	0.5	<0.04	<0.04	<0.04	0.66	0.65	4	10.1	0.79	1.99	<0.1	<0.04	<0.04	0.09	18.70	1.38	28.80
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.77	<0.2	<0.05	<0.05	<0.05	0.25	0.43	1.62	5.39	0.32	0.79	<0.12	<0.05	<0.05	<0.05	15.9	0.41	21.3
	11/10/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.39	<0.2	<0.05	<0.05	0.09	0.2	0.84	3.33	0.19	0.48	<0.12	<0.05	<0.05	<0.05	8.29	0.27	11.6	
	20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.72	1.1	<0.02	0.18	<0.02	1.89	2.24	9.73	21.2	1.82	6	<0.05	<0.02	<0.02	0.08	48.5	4.08	69.7
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.29
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	0.02	1.33	0.27	1.93
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	<0.0005	<0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.0012	0.168	0.153
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0020	<0.0020	0.0084	0.174	0.0738	0.891
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.151	1.73
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	1.21	0.05	1.35
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25
	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.10	<0.01	0.14
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.19	0.13	0.02	<0.05	<0.02	<0.02	<0.02	0.29	0.08	0.48
	17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.12	<0.2	<0.02	<0.02	<0.02	0.13	<0.02	0.26	0.43	0.21	0.05	<0.05	<0.02	<0.02	0.03	0.65	0.13	1.08
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.07	0.02	0.13	0.31	0.16	0.05	<0.05	<0.02	<0.02	0.02	0.59	0.08	0.90
	18/04/2023	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.1	0.03	0.18	0.53	0.18	0.1	<0.0						

T9: Historical Surface Water PFAS Analytical Results

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
Off-Base Bohle River/Louisa Creek/Town Common	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.11	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.02	0.24
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0088	0.0023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0099	0.0033	0.0187
	11/12/2018	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0113	<0.002	0.0007	<0.0005	<0.0005	0.0048	<0.0005	0.0045	0.0088	0.0023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0099	0.0033	0.0187
	9/05/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0188	<0.002	0.0017	<0.0005	<0.0005	0.0162	0.003	0.0248	0.0979	0.0127	0.0128	<0.0005	<0.0005	<0.0005	0.0018	0.075	0.0155	0.173
	24/10/2019	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0272	<0.002	0.0018	<0.0005	<0.0005	0.0119	0.0041	0.0325	0.136	0.0183	0.0129	<0.0005	<0.0005	<0.0005	0.0021	0.116	0.0256	0.252
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	0.01	0.18
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	0.09	0.02	0.19
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.02	<0.02	<0.05	<0.02	<0.02	0.10	0.02	0.20
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	0.08	0.02	0.18
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.01	0.11
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.02
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.06
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.07
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.09
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.09
	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.01	0.1
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01
	13/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.03
14/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	
11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.07	
SW021	18/07/2017	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.07	0.19	0.07	0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.30	
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0114	<0.002	<0.0005	<0.0005	<0.0005	0.01	0.0005	0.0026	0.0202	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0279	0.0013	0.0481	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<1.32	<0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.09	
	15/04/2021	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.34	0.08	0.05	<0.05	<0.02	<0.02	0.08	0.02	0.42	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.10	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	<0.01	0.09	
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02												

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS				
SW120	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.03	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.04	0.26				
	20/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.04	0.15	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.10	0.04	0.25				
	12/12/2018	<0.001	0.037	0.008	<0.001	<0.001	<0.0005	<0.001	0.005	<0.001	0.0023	<0.001	0.0243	<0.002	0.0027	<0.0005	<0.0005	0.0122	0.0013	0.0099	0.0265	0.0115	0.0016	<0.0005	<0.0005	<0.0005	0.002	0.0705	0.0139	0.097				
	24/10/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0023	<0.001	0.023	<0.002	0.0057	<0.0005	<0.0005	0.0139	0.0039	0.0354	0.141	0.0225	0.011	<0.0005	<0.0005	0.0008	0.0023	0.191	0.0331	0.332				
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	0.10	0.01	0.21				
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	0.11	0.02	0.21				
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.02	<0.02	<0.05	<0.02	<0.02	0.15	0.04	0.28				
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.05	0.13	0.02	<0.02	<0.05	<0.02	<0.02	0.13	0.03	0.26				
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.13	0.02	<0.02	<0.05	<0.02	<0.02	0.14	0.03	0.27				
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	0.11	0.02	0.2				
	3/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	0.13	0.02	0.25				
	11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	0.04	<0.01	0.08				
	SW127	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.0207	0.004	0.0007	<0.0005	<0.0005	0.0029	0.0008	0.0079	0.0315	0.0062	0.0045	<0.0005	<0.0005	0.0009	0.0228	0.0052
20/04/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0096	<0.002	<0.0005	<0.0005	<0.0005	0.0038	<0.0005	0.0024	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0052	0.0022	0.0092				
11/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	0.0008	<0.0005	<0.0005	0.0025	0.0025	0.0103	0.0542	<0.0005	0.0113	<0.0005	<0.0005	<0.0005	0.0011	0.0567	0.0057	0.111				
7/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0221	<0.002	0.0008	<0.0005	<0.0005	0.0025	0.0025	0.0103	0.0542	<0.0005	0.0113	<0.0005	<0.0005	<0.0005	0.0011	0.0567	0.0057	0.111				
24/10/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0577	<0.002	0.0005	<0.0005	<0.0005	0.0096	0.0048	0.0409	0.147	0.0223	0.0213	<0.0005	<0.0005	<0.0005	0.0008	0.0453	0.0159	0.192				
16/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.05					
24/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	0.01	0.05					
22/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.05					
6/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.06					
11/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	<0.01	0.04					
7/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	0.07	<0.01	0.13					
17/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.01				
18/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.01				
19/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01				
20/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02				
21/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02				
21/04/2023		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02				
9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.1	<0.02	<0.02	<0.02	<0.0																

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS
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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																													
NHMRC - Recreational Use - Surface Water																													

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS				
Off-Base - Mundy Creek Catchment	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0428	<0.002	<0.0005	<0.0005	<0.0005	0.0058	0.0081	0.052	0.175	0.0117	0.0353	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.16	0.0097	0.335
	6/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0108	<0.002	<0.0005	<0.0005	<0.0005	0.0011	0.0016	0.0048	0.038	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.154	0.0012	0.192
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0476	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0039	0.0587	0.204	<0.0005	0.055	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0929	0.0052	0.297	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0209	<0.002	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0234	0.0237	<0.0005	0.0059	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0257		
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.14		
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.03		
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.22	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.38	1.04	0.06	0.16	<0.05	<0.02	<0.02	<0.02	0.28	0.03	1.32			
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.06	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.06			
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.09			
	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.11			
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.18	<0.1	<0.02	<0.02	<0.02	0.02	0.04	0.29	1.04	0.05	0.15	<0.05	<0.02	<0.02	<0.02	0.6	0.04	1.64			
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.23	<0.1	<0.02	<0.02	<0.02	0.03	0.05	0.35	1.38	0.06	0.2	<0.05	<0.02	<0.02	<0.02	0.81	0.05	2.19			
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.29	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.48	1.66	0.07	0.25	<0.05	<0.02	<0.02	<0.02	0.88	0.05	2.54			
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.36	<0.1	<0.02	<0.02	<0.02	0.04	0.06	0.56	2.05	0.1	0.33	<0.05	<0.02	<0.02	<0.02	1.06	0.06	3.11			
	22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.43	<0.1	<0.02	<0.02	<0.02	0.05	0.08	0.56	2.07	0.09	0.37	<0.05	<0.02	<0.02	<0.02	1.1	0.08	3.17			
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.06			
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.07	<0.01	0.04		
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.19			
	13/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.19	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	<0.01	0.34			
14/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.08	0.48	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.02	1.29				
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.07	0.44	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.92	0.02	1.36				
19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.15	<0.1	<0.02	<0.02	<0.02	0.02	0.03	0.26	1.01	0.06	0.14	<0.05	<0.02	<0.02	<0.02	0.5	0.03	1.51				
SW108	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.02	<0.002	<0.0005	<0.0005	<0.0005	0.0081	0.0056	0.0332	0.118	0.0084	0.0182	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.157	0.0149	0.275		
	3/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0013	<0.002	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	0.0014	0.0054	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0123	0.0008	0.0177		
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0396	<0.002	<0.0005	<0.0005	<0.0005	0.0125	0.0082	0.0726	0.206	<0.0005	0.0416	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.152	0.022	0.358		
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0125	0.0082	0.0726	0.206	<0.0005	0.0416	<0.0005	<0.0005	<0.0005	0.0007	0.1			

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	
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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA				
SW115	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.04
	10/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.125	<0.002	<0.0005	<0.0005	<0.0005	0.0526	0.0501	0.276	0.784	0.0639	0.15	<0.0005	<0.0005	<0.0005	0.0026	1.06	0.0908	1.84		
	13/12/2018	<0.001	0.005	0.006	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.101	<0.002	0.0016	0.0022	<0.0005	0.0158	0.0169	0.104	0.349	0.0376	0.0448	<0.0005	<0.0005	<0.0005	0.0026	0.531	0.0191	0.88		
	8/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.3	0.64	0.06	0.12	<0.05	<0.02	<0.02	<0.02	0.85	0.09	1.49		
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0028	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0163	<0.0005	0.0191			
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	0.2	<0.02	<0.02	<0.02	0.13	0.14	0.84	2	0.18	0.32	<0.05	<0.02	<0.02	<0.02	3.70	0.25	5.70		
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.25	0.75	<0.06	0.1	<0.05	<0.02	<0.02	<0.02	1.08	0.08	1.83		
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.15	<0.1	<0.02	<0.02	<0.02	0.05	0.33	0.78	0.05	0.13	<0.12	<0.05	<0.05	<0.02	<0.02	1.07	0.09	1.85		
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	<0.1	<0.02	<0.02	<0.02	0.07	0.05	0.44	1.1	0.1	0.21	<0.05	<0.02	<0.02	<0.02	1.20	0.12	2.30		
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.03	0.03	0.15	0.46	0.04	0.07	<0.05	<0.02	<0.02	<0.02	0.86	0.04	1.32		
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.16	0.46	0.03	0.07	<0.05	<0.02	<0.02	<0.02	0.5	0.04	0.96		
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.06	0.06	0.48	1.51	0.09	0.24	<0.05	<0.02	<0.02	<0.02	1.22	0.09	2.73		
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.44	0.1	<0.02	<0.02	<0.02	0.12	0.13	1.03	2.71	0.21	0.42	<0.05	<0.02	<0.02	<0.02	2.08	0.19	4.79		
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.3	<0.02	<0.02	<0.02	0.26	0.26	1.76	4.69	0.36	0.88	<0.05	<0.02	<0.02	<0.02	4.97	0.51	9.66		
	22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.84	0.2	<0.02	<0.02	<0.02	0.27	0.27	1.72	4.13	0.4	0.84	<0.05	<0.02	<0.02	<0.02	4.34	0.54	8.47		
	3/10/2023	<0.05	0.06	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.22	<0.02	0.34		
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	0.44	0.03	0.04	<0.05	<0.02	<0.02	<0.02	0.46	0.03	0.9		
12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.16	0.6	0.04	0.07	<0.05	<0.02	<0.02	<0.02	1.18	0.04	1.78			
13/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	0.07	0.1	0.51	1.88	0.1	0.26	<0.05	<0.02	<0.02	<0.02	2.2	0.14	4.08			
14/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.65	0.2	<0.02	<0.02	<0.02	0.25	0.17	1.46	3.47	0.31	0.47	<0.05	<0.02	<0.02	<0.02	3.94	0.56	7.41			
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.02	0.03	0.18	0.52	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.9	0.05	1.42			
11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.1	<0.02	<0.02	<0.02	0.2	0.2	1.17	3.1	0.26	0.5	<0.05	<0.02	<0.02	<0.02	4.14	0.44	7.24			
18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<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	<0.02	<0.02	0.03	<0.01	0.03			
10/04/2018	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0747	<0.002	<0.0005	<0.0005	<0.0005	0.0265	0.0203	0.127	0.383	0.0317	0.0696	<0.0005	<0.0005	<0.0005	0.002	0.489	0.0448	0.872			
12/12/2018	<0.001	0.006	0.005	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0634	<0.002	0.0017	0.0022	<0.0005	0.011	0.0128	0.0898	0.242	0.0226	0.038	<0.0005	<0.0005	<0.0005	0.0026	0.374	0.0154	0.616			
7/05/2019	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.132	<0.002	<0.0005	<0.0005	<0.0005	0.033	0.0341	0.286	0.591	0.007	0.0836	<0.0005	<0.0005	<0.0005	0.0029	0.754	0.063	1.34			
24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0063	<0.002	<0.0005	<0.0005	<0.0005	0.0013	0.0015	0.0065	0.0225	0.0011	0.0034	<0.0005	<0.0005	<0.0005	<0.0005	0.0497	0.0035	0.0722			
15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.06	0.05	0.4	0.85	0.08	0.14	<0.05	<0.02	<0.02	<0.02	1.11	0.11	1.96			
21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.27	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.43	0.03	0.70			
20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05</																					

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS
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
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																													
NHMRC - Recreational Use - Surface Water																													

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
SW118	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.46	0.3	1.77	4.85	0.4	1.14	<0.05	<0.02	<0.02	0.04	5.21	0.70	10.10	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.55	<0.1	<0.02	<0.02	<0.02	0.32	0.22	1.37	6.14	0.3	0.52	<0.05	<0.02	<0.02	<0.02	7.04	0.50	13.20	
	13/12/2018	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0507	<0.002	0.0009	0.0024	<0.0005	0.0332	0.0056	0.0358	0.155	0.0268	0.0188	<0.0005	<0.0005	<0.0005	0.0012	0.204	0.0108	0.359	
	8/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.22	0.4	<0.02	<0.02	<0.02	0.45	0.33	2.91	6.02	0.55	1.22	<0.05	<0.02	<0.02	0.03	7.46	0.86	13.50	
	24/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.1	0.6	1.51	0.1	0.28	<0.05	<0.02	<0.02	<0.02	0.34	0.21	0.42
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	0.1	<0.02	<0.02	<0.02	0.09	0.1	0.6	1.51	0.1	0.28	<0.05	<0.02	<0.02	<0.02	3.11	0.20	4.62	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.2	<0.02	<0.02	<0.02	0.06	0.1	0.44	1.28	0.08	0.18	<0.05	<0.02	<0.02	<0.02	2.62	0.13	3.90	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.3	0.5	<0.05	<0.05	<0.05	0.58	0.44	3.12	7.16	0.67	1.3	<0.12	<0.05	<0.05	<0.05	10.00	1.20	17.20	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.49	0.2	<0.02	<0.02	<0.02	0.14	0.19	1.04	2.62	0.18	0.48	<0.05	<0.02	<0.02	0.02	3.70	0.30	6.32	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.56	0.1	<0.02	<0.02	<0.02	0.19	0.15	1.17	2.75	0.25	0.49	<0.06	<0.02	<0.02	<0.02	2.93	0.31	5.68	
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	<0.1	<0.02	<0.02	<0.02	0.08	0.08	0.4	1.2	0.13	0.26	<0.05	<0.02	<0.02	<0.02	2.2	0.12	3.4	
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.06	0.05	0.38	1.01	0.08	0.18	<0.05	<0.02	<0.02	<0.02	1.13	0.1	2.14	
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	<0.1	<0.02	<0.02	<0.02	0.12	0.1	0.76	1.93	0.15	0.35	<0.05	<0.02	<0.02	<0.02	2.23	0.21	4.16	
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.9	0.3	<0.02	<0.02	<0.02	0.34	0.29	2.02	5.04	0.46	1.02	<0.05	<0.02	<0.02	<0.02	5.86	0.66	10.9	
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.36	0.5	<0.02	<0.02	<0.02	0.6	0.49	3.39	7.63	0.75	1.49	<0.05	<0.02	<0.02	<0.02	10.2	1.2	17.8	
	22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	1.73	0.6	<0.05	<0.05	<0.05	0.77	0.62	3.77	8.7	0.83	1.8	<0.13	<0.05	<0.05	<0.05	10.3	1.5	19	
	9/10/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.38	<0.1	<0.02	<0.02	<0.02	0.14	0.1	0.79	1.95	0.15	0.38	<0.06	<0.02	<0.02	<0.02	2.39	0.28	4.34	
	11/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.09	0.03	0.46	1.24	0.1	0.15	<0.05	<0.02	<0.02	<0.02	1.38	0.14	2.62	
	12/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	0.1	<0.02	<0.02	<0.02	0.14	0.09	0.78	1.78	0.16	0.32	<0.05	<0.02	<0.02	<0.02	2.02	0.29	3.8	
	13/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.3	<0.02	<0.02	<0.02	0.37	0.26	2.03	5.03	0.41	0.8	<0.05	<0.02	<0.02	<0.02	6.46	0.75	11.5	
14/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.24	0.67	0.05	0.08	<0.05	<0.02	<0.02	<0.02	1.38	0.11	2.05		
15/01/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.16	0.37	0.04	0.05	<0.05	<0.02	<0.02	<0.02	0.6	0.05	0.97		
11/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.03	0.6	<0.02	<0.02	<0.02	0.93	0.64	5.02	9.64	1.12	2.08	<0.05	<0.02	<0.02	<0.02	9.03	1.78	18.7		
SW119	20/04/2018	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.93	0.496	0.0009	0.0249	<0.0005	1.56	0.87	10.4	21.1	1.62	3.85	<0.0005	<0.0005	<0.0005	0.0622	14.70	2.68	35.80	
	13/12/2018	<0.002	0.012	0.019	<0.002	<0.005	<0.0020	<0.005	0.0052	<0.005	<0.0020	<0.005	0.604	0.082	0.0048	0.0036	<0.0020	0.208	0.243	0.972	3.15	0.291	0.418	<0.0050	<0.0020	<0.0020	0.0654	4.57	0.385	7.72	
	8/05/2019	<0.001	0.03	0.005	<0.001	<0.001	<0.0005	0.001	0.0079	<0.001	<0.0005	<0.001	5.25	0.417	0.003	0.0494	<0.0005	1.56	1.5	12.7	25	2.28	5.55	<0.0005	<0.0005	<0.0005	0.16	36.10	3.58	61.10	
	24/10/2019	<0.001	0.021	0.001	<0.001	<0.001	<0.0005	<0.001	0.0009	<0.001	<0.0005	<0.001	0.341	0.059	0.0006	0.0029	<0.0005	0.138	0.125	0.883	2.27	0.184	0.413	<0.0005	<0.0005	<0.0005	0.0029	2.20	0.193	4.47	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	0.84	<0.2	<0.05	<0.05	<0.05	0.28	0.32	1.82	5.19	0.4	0.89	<0.13	<0.05	<0.05	<0.05	5.41	0.64	10.60	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.3	<0.02	<0.02	<0.02	0.11	0.18	0.84	2.95	0.15	0.42	<0.05	<0.02	<0.02	<0.02	6.02	0.21	8.97	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.11	0.26	0.03	0.05	<0.05	<0.02	<0.02	<0.02	0.47	0.03	0.73	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.12	0.3	<0.02	<0.02	<0.02	0.29	0.42	2.42	5.08	0.4	1.2	<0.05	<0.02	<0.02	0.03				

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTiDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	
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	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	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	0.02	0.02	0.02	0.01	0.21	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTiDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS			
Off-Base Three Mile Creek Catchment																																	
SW107	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.15	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	0.29	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.167	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0084	0.0822	0.489	0.0188	0.0813	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.124	0.0085	0.613
	6/05/2019	<0.002	0.004	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	0.0766	<0.002	<0.0020	<0.0020	<0.0020	0.004	0.01	0.0536	0.44	<0.0020	0.0634	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.134	0.008	0.574
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	0.43	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.58	
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.3	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	0.21	0.01	0.51	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.15	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.19	1.33	<0.04	0.16	<0.05	<0.02	<0.02	<0.02	0.40	0.04	1.73	
	3/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.41	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.07	0.59	2.29	0.09	0.38	<0.05	<0.02	<0.02	<0.02	1.16	0.07	3.45	
	12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.11	<1.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	0.51	<0.02	0.09	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	0.01	0.64	
20/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.17	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.29	1.19	0.06	0.16	<0.05	<0.02	<0.02	<0.02	0.84	0.05	2.03		
SW210	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.0085	0.0081	0.0383	0.0036	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0381	0.0028	0.0764
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0085	<0.002	<0.0005	<0.0005	<0.0005	0.0023	0.0012	0.0081	0.0383	0.0036	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0381	0.0028	0.0764
	4/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0058	<0.0005	0.0068	
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0009	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.004	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0059	
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	<0.0005	0.0042	
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	0.01	0.14	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.09	
	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	
	22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.01	0.18	
12/10/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01			
19/03/2024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01			

T10: Historical Sediment PFAS Analytical Results

0

	P:2 FTS	R:2 FIS	R:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHKA	PFHKS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID Sample Date

On-Base - Bohle River/Louisa Creek/Town Common Catchment																																			
SD131	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0054	<0.0002	0.0061	0.0061	
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0188	<0.0002	0.0208	0.0211
	29/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0031	<0.0002	0.0056	0.0069
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.026	0.0003	0.0313	0.0346
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0077	<0.0002	0.0095	0.0101
	9/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.005	0.0019	<0.005	<0.001	<0.001	<0.001	0.0011	0.006	0.0044	0.0458	<0.001	0.0037	<0.0025	<0.001	<0.001	<0.001	<0.001	<0.001	0.278	0.003	0.324	0.344
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0181	<0.0002	0.0196	0.0203
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0223	0.0002	0.0268	0.0296
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0327	<0.0002	0.0342	0.0352
	19/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0222	0.0003	0.0269	0.0292
21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0265	0.0005	0.0307	0.0337	
11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0994	0.0007	0.107	0.11	
20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0343	<0.0002	0.0375	0.0389	
SD126	6/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	0.0005	<0.0002	<0.0002	<0.0002	0.0009	0.0013	0.0101	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0699	0.0009	0.08	0.0848	
	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0034	<0.001	0.0038	<0.0010	<0.0010	<0.0010	0.0034	0.0064	0.0341	0.0016	0.0019	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.35	0.0028	0.384	0.407		
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0011	<0.0002	<0.0002	<0.0002	0.0003	0.0008	0.003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0503	0.0004	0.0533	0.0559	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0008	0.0052	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0602	0.0004	0.0654	0.0702
	17/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0036	<0.0002	0.004	0.004
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0011	<0.0002	<0.0002	<0.0002	0.0008	0.0015	0.0038	0.0327	0.0006	0.0019	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0344	0.0025	0.0671	0.0793
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0038	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0356	0.0003	0.0394	0.0418
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0017	<0.001	0.0283	<0.0002	<0.0002	0.0004	0.0035	0.0039	0.0234	0.0018	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.492	0.0018	0.515	0.561	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0332	<0.0002	0.0347	0.0355	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0004	0.007	<0.0002	<0.0002	0.0002	0.0022	0.0023	0.018	0.0004	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.151	0.0017	0.169	0.186	
20/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0056	0.002	<0.0006	<0.0002	<0.0002	0.0008	0.0015	0.0115	0.0172	0.0039	0.0033	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0735	0.0014	0.0907	0.121		
11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0003	0.0059	<0.0002	0.0003	<0.0005	<0.0002	<0										

T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:3 FTS	EIFOSA	EIFOSAA	EIFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoBA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:3 FTS	EIFOSA	EIFOSAA	EIFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoBA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS			
SD112	18/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011	0.0011	
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0037	<0.0002	0.0041	0.0044	
	20/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.003	0.0032
	3/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017	
	25/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	0.0012	0.0012
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0028	0.0028	
7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011	0.0011		
21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	<0.0002	0.0025	0.0025		
11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.0008	0.0008		
SD019	8/06/2017	<0.0005	<0.0005	0.0089	<0.0005	<0.0005	<0.0002	<0.0005	0.013	<0.0005	<0.0002	<0.0005	0.0013	<0.001	0.0017	0.001	0.0006	0.0007	0.0024	0.004	0.017	<0.0002	0.0014	<0.0005	<0.0002	0.0006	0.0005	0.223	0.0024	0.24	0.278			
	19/04/2018	<0.0005	<0.0005	0.0022	<0.0005	<0.0005	<0.0002	<0.0005	0.002	<0.0005	<0.0002	<0.0005	0.0053	0.001	0.001	<0.0002	0.0002	0.0014	0.0024	0.0113	0.0342	0.003	0.0044	<0.0005	<0.0002	0.0002	0.0003	0.0906	0.0025	0.125	0.162			
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0025	<0.001	0.003	0.0004	0.001	0.0007	0.0044	0.0045	0.0197	0.0016	0.0018	<0.0005	0.0004	0.0007	0.0007	0.363	0.0025	0.387	0.417			
	19/12/2018	-	-	0.0033	-	-	-	-	0.0016	-	-	-	0.0026	0.01	0.0039	0.0612	0.0124	0.112	0.0061	0.138	0.0243	0.0676	0.002	0.0008	0.002	0.0186	0.0419	0.439	0.084	0.459	1.02			
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.02	0.004	0.0016	0.0007	0.0011	0.0075	0.0089	0.0536	0.017	0.0111	0.0217	<0.0005	0.0004	0.0006	0.0009	0.0337	0.0115	0.0507	0.239			
	1/05/2019	-	0.0011	0.003	-	-	-	-	0.0017	-	-	-	0.0332	0.014	0.0022	0.0204	0.0095	0.0256	0.0194	0.0774	0.135	0.0227	0.037	0.0013	0.002	0.0097	0.0283	0.301	0.0437	0.436	0.744			
	18/10/2019	<0.0046	<0.0046	<0.0046	<0.0046	<0.0116	<0.0046	<0.0116	<0.0046	<0.0116	<0.0046	<0.0116	<0.0046	0.915	0.203	<0.0046	<0.0046	<0.0046	0.159	0.242	1.23	4.6	0.47	0.892	<0.0116	<0.0046	<0.0046	<0.0046	2.06	0.236	6.66	11		
	30/04/2020	<0.0005	<0.0005	0.0016	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0046	<0.001	<0.0005	<0.0005	<0.0005	0.0012	0.0037	0.0081	0.0388	0.0029	0.0056	<0.0012	<0.0005	<0.0005	0.0005	0.223	0.0021	0.262	0.293			
	10/09/2020	<0.0005	<0.0005	0.0035	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0382	<0.022	0.0013	0.0022	0.0012	0.0099	0.008	0.123	0.106	0.0369	0.0232	<0.0012	0.0006	<0.0005	0.0022	0.453	0.0138	0.559	0.843			
	22/04/2021	<0.0005	<0.0005	0.0019	<0.0005	<0.0005	<0.0002	<0.0005	0.0024	<0.0005	<0.0002	<0.0005	0.0094	0.002	0.0032	0.0004	0.0004	0.0022	0.007	0.0181	0.071	0.0052	0.0106	<0.0005	<0.0002	0.0004	0.0003	0.156	0.0051	0.227	0.296			
	7/10/2021	<0.0025	0.0434	0.003	<0.0025	<0.0063	<0.0025	<0.0063	0.0312	<0.0063	<0.0025	<0.0063	0.0106	<0.013	0.0173	<0.0025	<0.0025	0.0079	0.0115	0.0464	0.144	0.01	0.0149	<0.0063	<0.0025	<0.0025	0.0039	0.78	0.0127	0.924	1.14			
	21/04/2022	<0.005	<0.005	<0.005	<0.005	<0.0125	<0.005	<0.0125	<0.005	<0.0125	<0.005	<0.0125	0.063	<0.025	<0.005	<0.005	<0.005	0.0125	0.0616	0.18	0.651	0.0228	0.0755	<0.0125	<0.005	<0.005	<0.005	1.64	0.0464	2.29	2.75			
	17/10/2022	<0.005	0.002	0.0014	<0.0005	<0.0006	<0.0002	<0.00																										

	4:2 FTS	6:2 FIS	8:2 FTS	10:3 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoBA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:3 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoBA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
SD013	9/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0007	0.0092	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0569	0.0007	0.0661	0.069	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.001	0.006	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.103	0.0006	0.109	0.112		
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0002	0.0021	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0247	<0.0002	0.0268	0.0277
	30/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	0.0004	<0.0002	<0.0002	<0.0002	0.0004	0.0016	0.0057	0.0003	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0222	0.0003	0.0279	0.0321
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0044	0.004	0.001	<0.0002	<0.0002	0.0015	0.0026	0.0122	0.0371	0.0023	0.0056	<0.0005	<0.0002	<0.0002	0.0003	0.124	0.0034	0.161	0.198
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0008	0.0059	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0451	0.0003	0.051	0.0541
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0007	0.001	0.0057	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0215	0.0004	0.0272	0.0305	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0009	<0.0002	<0.0002	<0.0002	0.001	0.0005	0.0075	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0638	0.0005	0.0713	0.0748
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	<0.0002	<0.0002	0.0009	0.0009	0.0077	<0.0004	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0342	0.0004	0.0419	0.0457	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0014	0.0093	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0594	0.0006	0.0687	0.0741
	17/10/2022	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	0.0028	<0.01	<0.002	<0.002	<0.002	0.0107	0.0089	0.0807	<0.002	0.0057	<0.0049	<0.002	<0.002	<0.002	<0.002	0.669	0.0024	0.75	0.789
	20/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0006	<0.0002	<0.0002	0.0004	0.0004	0.0032	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0243	<0.0002	0.0275	0.0288	
	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0004	0.0024	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0159	<0.0002	0.0183	0.0194	
	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0153	<0.0002	0.0168	0.0171	
On-Base - Mundy Creek Catchment																																	
SD001	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0024	<0.001	0.0008	<0.0002	<0.0002	0.001	0.0011	0.0055	0.0145	0.001	0.0021	<0.0005	<0.0002	<0.0002	<0.0002	0.0007	0.0662	0.0033	0.0807	0.0986	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	0.0007	<0.0002	<0.0002	<0.0002	0.0006	0.0034	0.0082	0.0006	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.0282	0.0014	0.0364	0.0466		
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0035	<0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0174	0.0002	0.0209	0.0234	
	23/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	0.0073	<0.005	<0.001	<0.001	0.0022	0.0032	0.0154	0.0437	0.0032	0.0062	<0.0025	<0.001	<0.001	<0.001	0.0816	0.0064	0.125	0.169	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003	0.0036	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0262	0.0002	0.0298	0.0319	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	0.0006	<0.0002	<0.0002	0.0004	0.0017	0.0109	0.0004	0.0011	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	0.0579	0.0022	0.0688	0.0783
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0012	0.0032	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0185	0.0006	0.0217	0.025	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0116	<0.0002	0.0128	0.0128
	20/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0004	<0.0002	<0.0002	<0.0002	0.0004	0.0007	0.0032	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0225	0.0003	0.0257	0.028
	11/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0008	0.0007	0.0064	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0596	0.0006	0.066	0.0695	
	20/03/2024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	&															

	4:2 FTS	6:2 FIS	8:2 FTS	10:3 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoBA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
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	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	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	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:3 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoBA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS				
SD116	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0009	0.0009	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0047	<0.0002	0.0054	0.0054	
	12/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0081	<0.0002	0.0087	0.0087	
	7/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0021	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0086	0.0003	0.0107	0.0118	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0006	0.0006	
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0103	0.0002	0.0114	0.0118	
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0009	0.0004	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0043	0.0008	0.0047	0.0069	
	20/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0004	0.0004	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0044	0.0006	0.0048	0.0062	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0033	<0.0002	0.0035	0.0035	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0046	<0.0002	0.0046	0.0046	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0035	<0.0002	0.0044	0.0047	
	12/10/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0005	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0217	0.0013	0.0232	0.0253	
	11/03/2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0004	0.0005	0.0016	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0123	<0.0004	0.0139	0.0144	
	14/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0018	0.0002	0.0018	0.0023	
SD117	18/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0007	<0.001	0.0002	<0.0002	0.0003	0.0003	0.0007	0.0013	0.0078	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0409	0.0012	0.0487	0.0542		
	18/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	0.001	0.0007	<0.0002	<0.0002	0.0008	0.0009	0.0063	0.0148	0.0011	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0642	0.0017	0.079	0.0945		
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	0.0015	<0.001	0.0006	<0.0002	<0.0002	0.0006	0.0008	0.0038	0.0098	0.0007	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0672	0.0016	0.077	0.0878			
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	<0.0005	<0.0002	<0.0005	0.0048	<0.001	0.0095	0.0006	0.0008	0.0015	0.0058	0.0062	0.0522	0.0019	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0009	0.202	0.0041	0.254	0.296	
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0003	0.0013	0.0034	0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0138	0.0004	0.0172	0.0208		
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
	16/04/2020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	0.0013	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.0019	0.0059	0.023	<0.0010	0.0034	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010	0.0002	0.0002	0.225	0.0036	0.248	0.284
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0011	0.0011	0.0068	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0676	0.0011	0.0744	0.0799		
	16/04/2021	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	0.0015	<0.005	0.0024	<0.001	<0.001	0.0003	0.0015	0.0029	0.01	<0.001	0.0012	<0.0025	<0.0014	<0.001	<0.001	<0.001	0.139	0.0021	0.149	0.162		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.																								

Appendix C

Data Validation

DATA VALIDATION REPORT			
Project No.:	60612487	Validation by: SB	Date: 17/04/2024
Client:	Department of Defence		
Site:	RAAF Townsville (0874)		
Matrix type:	Groundwater, surface water, sediment	Data verified by: CE	Date: 17/04/2024
No. of primary samples:	103 groundwater, 38 surface water, 37 sediment (March 2024)		
Laboratory:	ALS (Brisbane), Eurofins (Brisbane)	Project Manager: CJ	Date: 30/04/2024
Lab reference:	ET2401732, ET2401733, ET2401734, ET2401785, ET2401786, ET2401787, ET2401820, ET2401926, 1079816, 1082188		
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 considered appropriate for use to meet the project objectives.		
Field QA/QC			
Sampling personnel	Sampling was conducted by AECOM personnel from 11 March to 28 March 2024. Well gauging was completed on 14 March 2024.		
Sampling Methodology	Groundwater, surface water and sediment samples were collected using appropriate methods as identified within the main body of the report. Hydrasleeves were installed in the well for a minimum of 24 hours prior to collection. Surface water samples were collected 0.5m below the water surface. Sediment samples were collected from within the water body, where possible.		
Chain of Custody (COC)	COC documents were completed as per AECOM procedures.		
Rinsate Blank	<p>Rinsate blank samples were collected at a frequency of one per day per piece of equipment that was decontaminated (25 in total).</p> <p>Concentrations of all analytes tested were reported below the LOR for rinsate samples, except for:</p> <ul style="list-style-type: none"> 0874_QC301_240313 in batch ET2401733 which reported PFOS at 0.05 µg/L (LOR of 0.01 µg/L). This sample was collected off an interface probe (IP) used in groundwater sampling on 13 March 2024. 0874_QC354_240320 in batch ET2401786 which reported PFOS at 0.02 µg/L (LOR of 0.01 µg/L). This sample was collected off an IP used in groundwater sampling on 20 March 2024. 0874_QC355_240320 in batch ET2401786 which reported PFOS at 0.02 µg/L (LOR of 0.01 µg/L). This sample was collected off a surface water cup on 20 March 2024. <p>The detection of PFOS is comparable to the LOR and the groundwater and surface water samples collected on these days reported similar results to the historical dataset; therefore, the detection of PFOS in the rinsate samples is unlikely to impact the interpretation of the results (refer Table C1 attached).</p>		

Trip Blanks	<p>Trip blanks were included at a rate of one per batch of samples (nine in total), with the exception of ET2401926. Reviewing historic data of samples submitted in ET2401926 shows current results are comparable to past results, indicating samples have not been contaminated between sample collection and submission to the laboratory.</p> <p>PFAS were not detected in the trip blanks (refer Table C1 attached).</p>
Eskies to Laboratory	<p>A total of seven eskies of samples were submitted to ALS and two eskies were submitted to Eurofins across the March 2024 sampling event. Multiple batches were submitted within the one esky resulting in nine trip blanks being submitted for analysis.</p>
Frequency of field QC	<p>Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a target frequency of one in ten primary samples. Target frequencies were met with the following frequency:</p> <ul style="list-style-type: none"> • Twelve duplicates and triplicates for groundwater (11.65%). • Five duplicates and triplicates for surface water (13.16%). • Five duplicates and triplicates for sediment (13.51%).
Handling and preservation	<p>Primary, duplicate, and triplicate samples were received, preserved, and chilled at the laboratory. Sample receipt temperature was reported between 4.3°C and 10.8°C by the primary laboratory with attempt to chill evident.</p> <p>The receiving temperature recorded by the secondary laboratory was reported between 13.0°C and 20.4°C, an attempt to chill was recorded and the samples were noted as being received in good condition. As the samples were chilled prior to submission to the laboratory and the results were generally comparable to the previous results, the high receipt temperature is unlikely to have a material impact interpretation of the data.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted. Upon receipt at the laboratory the samples were chilled prior to analysis.</p>
Equipment Calibration	<p>Calibration of the water quality meter was conducted each day before sampling, see Appendix F.</p>
Laboratory QA/QC	
Tests requested/reported	<p>Samples were analysed and reported as requested on the COC.</p>
Holding time compliance	<p>Samples were extracted and analysed within recommended holding times, except:</p> <ul style="list-style-type: none"> • ET2401733 and ET2401785 where moisture content analysis was completed 1 day overdue. <p>Exceeding the holding time may impact the accuracy and reproducibility of results for moisture content in these batches but does not impact the analysis of PFAS in the samples within this batch.</p>
Laboratory Accreditation	<p>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 Eurofins Environmental Testing Australia Pty Ltd (Brisbane), also a NATA accredited laboratory.</p>
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except for:</p>

- Laboratory duplicates were below the expected rate of 10% for PFAS in batch ET2401733 (9.68%) and ET2401926 (5.00%).
- Matrix spikes were below the expected rate of 5% for PFAS in batch ET2401926 as no matrix spike analysis was performed.

For all other quality control requirements, including laboratory control samples and method blanks, target frequency was met.

The laboratory was provided with sufficient additional sample volume to facilitate this analysis.

Method Blank

No method blank outliers occurred. All analytes were found to be below LOR in method blanks.

Laboratory duplicate RPDs

Laboratory duplicate Relative Percentage Differences (RPD) were within control limits, except for:

- 0874_MW021_240319 in batch ET2401786 where RPD was greater than the upper limit of 20% for analytes PFPeS (24.8%) and PFHpS (23.2%).

Laboratory control spike (LCS) recovery

All LCS recoveries were reported within acceptable limits.

Matrix spike recovery

All matrix spike (MS) recoveries were within control limits, except:

- 0874_MW026_240314 in batch ET2401731 where recovery was not determined for PFOS as background level was greater than or equal to four times the spike level; and recovery was less than the lower data objective for PFHxA (65.8/72.0%) and 10:2 FTS (63.4/70.0%).
- 0874_SW118_240311 in batch ET2401733 where recovery was not determined for PFBS, PFPeS, PFHxS, PFOS, PFPeA, PFHxA, PFHpA, and PFOA as background level was greater than or equal to four times the spike level.
- 0874_MW056_230314 in batch ET2401734 where recovery was not determined for PFBS and PFHxS as background level was greater than or equal to four times the spike level.
- 0874_SD111_240319 in batch ET2401785 where recovery was not determined for PFOS and PFHxS as background level greater than or equal to 4x spike level; and recovery was less than the lower data objective for 10:2 FTS (47.5/70.0%).
- 0874_MW270_240318 and 0874_MW214_240320 in batch ET2401785 where recovery was less than the lower data objective for PFBA (52.1/73.0% and 65.8/73.0%, respectively).
- 0874_SD013_240320 in batch ET2401786 where recovery was not determined for PFOS as background level greater than or equal to 4x spike level; and recovery was less than the lower data objective for MeFOSE (68.4/70.0%) and 10:2 FTS (58.0/70.0%).
- 0874_SW132_240320 in batch ET2401786 where recovery was not determined for PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFPeA, PFHxA, PFHpA, and PFOA as background level greater than or equal to 4x spike level; and recovery was less than the lower data objective for PFTeDA (68.2/71.0%).
- 0874_MW247_240319 in batch ET2401786 where recovery was not determined for PFPeS, PFHxS, PFHpS, PFOS, PFHxA, PFOA, and FOSA as background level was greater than or equal to four times the spike level; and recovery was less than the lower data objective for PFBA (67.1/73.0%), PFHpA (64.8/72.0%), PFTeDA (70.7/71.0%), MeFOSA (58.5/63%), EtFOSA (67.0/70.0%), and MeFOSAA (58.4/65%).
- 0874_MW211_240321 in batch ET2401786 where recovery was less than the lower data objective for PFBA (71.9/73.0%), PFUnDA

(57.0/69.0%), PFDODA (60.3/72.0%), PFTrDA (52.6/65.0%), EtFOSA (57.7/70.0%), MeFOSAA (64.9/65.0%), EtFOSAA (52.4/61.0%), and 10:2 FTS (42.9/70.0%).

- Anonymous sample ET2410433-002 run with batch ET2401926 where recovery was not determined for PFOS as background level was greater than or equal to four times the spike level.

Where the matrix spike recovery could not be determined for an analyte in a sample, the samples contained high concentrations of that analyte making the spiked concentration undeterminable relative to the background concentration.

Where the recovery was less than the lower data quality objective for samples it is possible that results have been under reported for these analytes in these batches, however it was noted that samples 0874_MW026_240314, 0874_MW270_240318, 0874_SD111_240319, 0874_MW214_240320, 0874_SD013_240320, 0874_SW132_240320, and 0874_MW247_240319 had poor matrix spike recoveries due to matrix interferences.

Comparing results to historical records shows no indication of erroneous results.

Surrogate spike recovery

No surrogate spike recovery outliers occurred.

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

Limit of Reporting (LOR) values were adjusted for the following samples:

- 0874_MW112_240313, 0874_MW125_240313, 0874_MW005_240313, 0874_MW081_240313, 0874_MW016_240314, 0874_MW046_240314, 0874_MW015_240319, 0874_MW021_240319, 0874_MW043_240319, 0874_MW109_240319, 0874_MW110_240319, 0874_MW138_240319, 0874_MW139_240319, 0874_MW247_240319, 0874_MW248_240319: Dilution was required due to matrix interferences, LOR was adjusted accordingly. All of the listed samples contained high concentrations of PFAS, particularly PFOS and PFHxS.
- 0874_SD115_240311, 0874_SD116_240311, 0874_SD117_240311, 0874_QC101_240311, 0874_SD118_240311, 0874_SD127_240311, 0874_SD110_240319, 0874_SD102_240320, 0874_SD125_240320: Diluted due to high moisture content, LORs adjusted accordingly.

The adjusted LORs were sufficiently low to enable assessment against adopted screening levels (where relevant) in these samples.

Field duplicate RPDs

Field duplicate RPDs were all reported within control limits with the exception of the following samples (The sample with the higher concentration is in bold):

- **0874_SD117_240311** and 0874_QC101_240311 for PFDS (50%).

The primary and duplicate sample results were noted to be on the same order of magnitude and comparable to historic results (Refer **Table C4** attached).

Field triplicate RPDs

Field triplicate RPDs were all reported within control limits with the exception of the following samples (The sample with the higher concentration is in bold):

- 0874_MW244_230319 and **0874_QC251_240311** for PFOS (38%).
- **0874_MW243_240322** and 0874_QC258_240322 for PFBA (32%), PFHpA (59%), PFHxA (35%), PFOS (73%), PFOA (42%) Sum of PFHxS and PFOS (53%), and Sum of PFAS (44%).
- 0874_SW117_240311 and **0874_QC200_240311** for PFOS (33%).
- **0874_SW123_240320** and 0874_QC253_240320 for PFHpS (44%), PFPeS (75%), PFOS (65%), and Sum of PFHxS and PFOS (37%).

All triplicate results were found to be comparable to historic results and within the same order of magnitude as the primary samples, except for 0874_QC258_240322 for PFOS. Due to the frequency of discrepancies between primary and secondary laboratory results, all secondary laboratory results were re-analysed; due to the consistency in primary laboratory results and agreement with historic results, it is possible that remaining variability between primary and secondary laboratories is due to differences in analytical technique and sample inhomogeneity and unlikely to affect interpretation of results (Refer **Table C2, Table C3, and Table C4** attached).

C1 - Groundwater Duplicates

Lab Report Number	ET2401732	ET2401732		1079816		ET2401786	ET2401786		1079816	
Field ID	0874_MW232_240314	0874_QC150_240314		0874_QC250_240314		0874_MW244_230319	0874_QC151_240319		0874_QC251_240319	
Date /Time	14 Mar 2024 12:39PM	14 Mar 2024 12:39PM		14 Mar 2024		19 Mar 2024 08:22AM	19 Mar 2024 08:27AM		19 Mar 2024	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	TriPLICATE	RPD	Primary	Duplicate	RPD	TriPLICATE	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.65	0.60	8	0.73	12	0.57	0.61	7	0.69	19
Perfluorobutanoic acid (PFBA)	µg/L	0.05	0.2	0.2	0	0.29	37	0.1	0.1	0	0.16	46
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.16	0.15	6	0.18	12	0.06	0.07	15	0.09	40
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.45	0.46	2	0.54	18	0.04	0.05	22	0.05	22
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.97	0.95	2	1.0	3	0.96	0.96	0	1.1	14
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	6.05	5.38	12	5.4	11	1.41	1.26	11	1.3	8
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.31	0.29	7	0.28	10	0.22	0.21	5	0.26	17
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.76	0.63	19	0.71	7	0.42	0.40	5	0.43	2
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTeDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	0.02	0	<0.02	<0.02	0	0.06	100
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	14.1	13.9	1	18	24	2.44	2.59	6	3.6	38
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.38	0.38	0	0.36	5	0.06	0.06	0	0.09	40
Sum of PFHxS and PFOS	µg/L	0.01	20.2	19.3	5	23.4	15	3.85	3.85	0	4.9	24
Sum of PFAS	µg/L	0.01	24.0	22.9	5	27.8	15	6.28	6.31	0	8.12	26

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

**Elevated RPDs are highlighted as per QAQC Profile settings (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

C1 - Groundwater Duplicates

Lab Report Number	Field ID	Date /Time	Matrix Type	Sample Type	RPD	RPD	RPD	RPD	RPD	RPD
ET2401787	0874_MW225_240319	19 Mar 2024 10:18AM	Water	Primary						
ET2401787	0874_QC170_240319	19 Mar 2024 10:18AM	Water	Duplicate						
1079816	0874_QC270_240319	19 Mar 2024	Water	Triplicate						
ET2401785	0874_MW253_240319	19 Mar 2024 11:51AM	Water	Primary						
ET2401785	0874_QC104_240319	19 Mar 2024 11:49AM	Water	Duplicate						
1079816	0874_QC204_240319	19 Mar 2024	Water	Triplicate						

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.03	0.03	0	0.04	29	<0.02	<0.02	0	0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.06	0.06	0	0.08	29	0.01	0.01	0	0.02	67
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.15	0.14	7	0.17	13	<0.01	<0.01	0	<0.01	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01	0.21	0.20	5	0.25	17	0.01	0.01	0	0.02	67
Sum of PFAS	µg/L	0.01	0.24	0.23	4	0.29	19	0.01	0.01	0	<0.1	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

C1 - Groundwater Duplicates

Lab Report Number	ET2401785	ET2401785		1082188		ET2401787	ET2401787		1082188	
Field ID	0874_MW255_240320	0874_QC107_240320		0874_QC207_240320		0874_MW267_240320	0874_QC171_240320		0874_QC271_240320	
Date /Time	20 Mar 2024 01:10PM	20 Mar 2024 01:11PM		20 Mar 2024		20 Mar 2024 01:19PM	20 Mar 2024 01:20PM		21 Mar 2024	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	0	0.01	0	<0.02	<0.02	0	0.02	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.01	0.01	0	0.01	0	<0.01	<0.01	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	0.02	67
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01	0.01	0.01	0	0.01	0	<0.01	<0.01	0	0.02	67
Sum of PFAS	µg/L	0.01	0.01	0.01	0	<0.1	0	<0.01	<0.01	0	<0.1	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any r

C1 - Groundwater Duplicates

Lab Report Number	ET2401786	ET2401786		1082188		ET2401785	ET2401785		1082188	
Field ID	0874_MW237_240321	0874_QC156_240321		0874_QC256_240321		0874_MW226_240321	0874_QC108_240321		0874_QC208_240321	
Date /Time	21 Mar 2024 10:35AM	21 Mar 2024 10:35AM		21 Mar 2024		21 Mar 2024 01:49PM	21 Mar 2024 01:50PM		21 Mar 2024	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.01	<0.01	0	0.01	0	0.01	0.01	0	0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.04	0.04	0	<0.01	120	0.07	0.07	0	<0.01	150
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01	0.05	0.04	22	0.01	133	0.08	0.08	0	0.01	156
Sum of PFAS	µg/L	0.01	0.05	0.04	22	<0.1	0	0.08	0.08	0	<0.1	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

C1 - Groundwater Duplicates

Lab Report Number	ET2401786	ET2401786		1082188		ET2401786	ET2401786		1082188	
Field ID	0874_MW215_240321	0874_QC157_240321		0874_QC257_240321		0874_MW207_240321	0874_QC172_240321		0874_QC272_240321	
Date /Time	21 Mar 2024 02:58PM	21 Mar 2024 02:58PM		21 Mar 2024		21 Mar 2024 03:12PM	21 Mar 2024 03:14PM		21 Mar 2024	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EIFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EIFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	0	0.02	0	0.03	0.04	29	0.03	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	0.05	0.04	22	0.05	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.02	0.02	0	0.02	0	0.11	0.12	9	0.08	32
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01	0.02	0.02	0	0.02	0	0.16	0.16	0	0.13	21
Sum of PFAS	µg/L	0.01	0.02	0.02	0	<0.1	0	0.19	0.20	5	0.16	17

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any r

C1 - Groundwater Duplicates

Lab Report Number	Field ID	Date /Time	Matrix Type	Sample Type	RPD	RPD	RPD	RPD	RPD	RPD	RPD	RPD
ET2401786	0874_MW204_240321	21 Mar 2024 03:13PM	Water	Primary								
ET2401786	0874_QC173_240321	21 Mar 2024 03:15PM	Water	Duplicate								
1082188	0874_QC273_240321	21 Mar 2024	Water	Triplicate								
ET2401820	0874_MW243_240322	22 Mar 2024 10:21AM	Water	Primary								
ET2401820	0874_QC158_240322	22 Mar 2024 10:22AM	Water	Duplicate								
1082188	0874_QC258_240322	22 Mar 2024	Water	Triplicate								

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	0.13	0.13	0	0.08	48
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	9.78	9.71	1	8.1	19
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	1.3	1.4	7	1.8	32
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	0.02	<0.02	0	<0.01	67
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	2.40	2.31	4	1.3	59
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	6.08	6.26	3	5.5	10
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	19.9	20.0	1	14	35
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	66.0	70.9	7	56	16
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	3.76	3.85	2	3.6	4
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	9.09	9.41	3	7.1	25
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	0.06	0.06	0	0.03	67
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.06	0.07	15	<0.01	143	151	148	2	70	73
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	5.19	5.38	4	3.4	42
Sum of PFHxS and PFOS	µg/L	0.01	0.06	0.07	15	<0.01	143	217	219	1	126	53
Sum of PFAS	µg/L	0.01	0.06	0.07	15	<0.1	0	275	277	1	174.92	44

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

C2 - Surface Water Duplicates

Lab Report Number	ET2401733	ET2401733		1079816		ET2401733	ET2401733		1079816	
Field ID	0874_SW117_240311	0874_QC100_240311		0874_QC200_240311		0874_SW207_240315	0874_QC102_240315		0874_QC202_240315	
Date /Time	11 Mar 2024 02:08PM	11 Mar 2024 02:09PM		11 Mar 2024		15 Mar 2024 12:42PM	15 Mar 2024 01:01PM		15 Mar 2024	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	1.66	1.74	5	1.8	8	0.05	0.04	22	0.06	18
Perfluorobutanoic acid (PFBA)	µg/L	0.05	0.5	0.5	0	0.60	18	<0.1	<0.1	0	<0.05	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.72	0.71	1	0.54	29	<0.02	<0.02	0	0.02	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.52	0.55	6	0.48	8	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	4.21	3.93	7	4.0	5	0.11	0.10	10	0.13	17
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	8.04	8.32	3	10	22	0.33	0.33	0	0.38	14
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.88	0.91	3	0.92	4	0.02	0.02	0	0.03	40
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	1.74	1.73	1	1.7	2	0.03	0.04	29	0.05	50
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	0.02	0	0.02	0	<0.02	<0.02	0	0.02	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	9.29	10.1	8	13	33	0.27	0.29	7	0.33	20
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	1.37	1.42	4	1.3	5	0.02	0.02	0	0.03	40
Sum of PFHxS and PFOS	µg/L	0.01	17.3	18.4	6	23	28	0.60	0.62	3	0.71	17
Sum of PFAS	µg/L	0.01	28.9	29.9	3	34.77	18	0.83	0.84	1	1.06	24

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (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

C2 - Surface Water Duplicates

Lab Report Number	ET2401785	ET2401785		1079816		ET2401786	ET2401786		1082188	
Field ID	0874_SW108_240319	0874_QC106_240319		0874_QC206_240319		0874_SW123_240320	0874_QC153_240320		0874_QC253_240320	
Date /Time	19 Mar 2024 04:27PM	19 Mar 2024 04:27PM		19 Mar 2024		20 Mar 2024 12:02PM	20 Mar 2024 12:02PM		20 Mar 2024	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	TriPLICATE	RPD	Primary	Duplicate	RPD	TriPLICATE	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	0.02	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	0.03	0.03	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.15	0.15	0	0.18	18	4.48	3.99	12	4.4	2
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	0.07	0	0.9	0.9	0	1.1	20
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.02	0.02	0	0.03	40	0.77	0.72	7	0.59	26
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.03	0.04	29	0.05	50	3.58	3.81	6	2.3	44
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.26	0.26	0	0.35	30	6.40	6.89	7	6.8	6
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	1.01	1.07	6	1.1	9	24.7	23.6	5	22	12
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.06	0.06	0	0.07	15	1.41	1.44	2	1.6	13
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.14	0.14	0	0.15	7	5.75	5.80	1	2.6	75
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	0.02	0.02	0	0.03	40
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.50	0.56	11	0.63	23	27.5	25.9	6	14	65
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.03	0.03	0	0.05	50	1.75	1.70	3	1.3	30
Sum of PFHxS and PFOS	µg/L	0.01	1.51	1.63	8	1.73	14	52.2	49.5	5	36	37
Sum of PFAS	µg/L	0.01	2.20	2.33	6	2.73	22	77.3	74.8	3	59.24	26

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r:
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

C2 - Surface Water Duplicates

Lab Report Number	ET2401786	ET2401786		1082188	
Field ID	0874_SW109_240320	0874_QC154_240320		0874_QC254_240320	
Date /Time	20 Mar 2024 03:36PM	20 Mar 2024 03:38PM		20 Mar 2024	
Matrix Type	Water	Water		Water	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.05	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.11	0.11	0	0.12	9
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.04	0.04	0	0.03	29
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.03	0.03	0	0.03	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.24	0.24	0	0.26	8
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.69	0.71	3	0.78	12
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.06	0.04	40	0.06	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.11	0.11	0	0.11	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.59	0.55	7	0.52	13
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.08	0.08	0	0.07	13
Sum of PFHxS and PFOS	µg/L	0.01	1.28	1.26	2	1.3	2
Sum of PFAS	µg/L	0.01	1.95	1.91	2	2.01	3

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAOC Profile settings (Acceptable RPDs for each EQL multiplier r:
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

C3 - Sediment Duplicates

Lab Report Number	ET2401733	ET2401733		1079816		ET2401733	ET2401733		1079816	
Field ID	0874_SD117_240311	0874_QC101_240311		0874_QC201_240311		0874_SD207_240315	0874_QC103_240315		0874_QC203_240315	
Date /Time	11 Mar 2024 02:06PM	11 Mar 2024 02:10PM		11 Mar 2024		15 Mar 2024 11:54AM	15 Mar 2024 01:01PM		15 Mar 2024	
Matrix Type	Sediment	Sediment		Sediment		Sediment	Sediment		Sediment	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.01	0	<0.0005	<0.0005	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamide (EIFOSA)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EIFOSAA)	mg/kg	0.0002	<0.0004	<0.0004	0	<0.01	0	<0.0002	<0.0002	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0.0017	0.0014	19	<0.005	0	<0.0002	<0.0002	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0004	<0.0004	0	<0.01	0	<0.0002	<0.0002	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	0.0030	0.0031	3	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.002	<0.002	0	<0.005	0	<0.001	<0.001	0	<0.005	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0004	<0.0004	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	0.0045	0.0027	50	0.0052	14	<0.0002	<0.0002	0	<0.005	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0005	0.0006	18	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	0.0011	0.0012	9	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	0.0056	0.0052	7	<0.005	11	<0.0002	<0.0002	0	<0.005	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	0.0051	0.0049	4	<0.005	2	<0.0002	<0.0002	0	<0.005	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	0.0382	0.0396	4	0.044	14	0.0006	0.0005	18	<0.005	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0012	0.0011	9	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	0.0041	0.0040	2	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0010	<0.0010	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.0005	0.0004	22	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0004	<0.0004	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	0.0004	0.0006	40	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	0.474	0.428	10	0.46	3	0.0030	0.0031	3	<0.005	0
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002	0.0046	0.0049	6	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Sum of PFHxS and PFOS	mg/kg	0.0002	0.512	0.468	9	0.504	2	0.0036	0.0036	0	<0.005	0
Sum of PFAS	mg/kg	0.0002	0.544	0.498	9	0.518	5	0.0036	0.0036	0	<0.05	0
Moisture Content	%	0.1	62.9	62.7	0	-	-	46.3	48.8	5	-	-

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

**Elevated RPDs are highlighted as per QAQC Profile settings (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

C3 - Sediment Duplicates

Lab Report Number	Field ID	Date /Time	Matrix Type	Sample Type	RPD	RPD	RPD	RPD	RPD	RPD	RPD	RPD
ET2401785	0874_SD108_240319	19 Mar 2024 04:23PM	Sediment	Primary								
ET2401785	0874_QC105_240319	19 Mar 2024 04:23PM	Sediment	Duplicate								
1079816	0874_QC205_240319	19 Mar 2024	Sediment	Triplicate								
ET2401786	0874_SD016_240320	20 Mar 2024 11:12AM	Sediment	Primary								
ET2401786	0874_QC152_240320	20 Mar 2024 11:13AM	Sediment	Duplicate								
1082188	0874_QC252_240320	20 Mar 2024	Sediment	Triplicate								

Chem Name	Unit	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.01	0	<0.0005	<0.0005	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamide (EIFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EIFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.01	0	<0.0002	<0.0002	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.01	0	<0.0002	<0.0002	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.005	0	<0.001	<0.001	0	<0.005	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	0.0004	0.0003	29	<0.005	0	0.0004	0.0004	0	<0.005	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	0.0046	0.0048	4	<0.005	0	0.0022	0.0031	34	<0.005	0
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0	<0.0002	<0.0002	0	<0.005	0
Sum of PFHxS and PFOS	mg/kg	0.0002	0.0050	0.0051	2	<0.005	0	0.0026	0.0035	30	<0.005	0
Sum of PFAS	mg/kg	0.0002	0.0050	0.0051	2	<0.05	0	0.0026	0.0035	30	<0.05	0
Moisture Content	%	0.1	23.8	25.2	6	-	-	37.6	36.1	4	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r:
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

C3 - Sediment Duplicates

Lab Report Number	ET2401786	ET2401786		1082188	
Field ID	0874_SD109_240320	0874_QC155_240320		0874_QC255_240320	
Date /Time	20 Mar 2024 03:39PM	20 Mar 2024 03:39PM		20 Mar 2024	
Matrix Type	Sediment	Sediment		Sediment	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD

Chem Name	Unit	EQL					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.005	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorotetradecanoic acid (PFTrDA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	<0.0002	0.0002	0	<0.005	0
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.005	0
Sum of PFHxS and PFOS	mg/kg	0.0002	<0.0002	0.0002	0	<0.005	0
Sum of PFAS	mg/kg	0.0002	<0.0002	0.0002	0	<0.05	0
Moisture Content	%	0.1	21.1	24.4	15	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier r:
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any n

Appendix D

Chain of Custody Records



Environmental Division
Townsville
Work Order Reference
ET2401732



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD 0874 PFA SAMP 24 Client: RECUM

Project Manager: [Redacted]

ALS Compass COC Reference: 64881
64882
64883 # Samples: 81

Phone: ([Redacted])

Sampler: [Redacted]

Phone: ([Redacted])

Turnaround Requirements: Standard 7 day TAT Urgent

Special Instructions:

Please send to Melbourne.

ALS Use Only

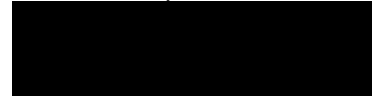
Custody seal intact? YES NO N/A

Free ice / frozen ice bricks upon receipt? YES NO N/A

Random sample temperature on receipt? °C

Custody:

Relinquished by:



Date / Time:

19/3/24

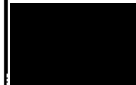
Received by:



Date / Time:

20/3/24 9:40am

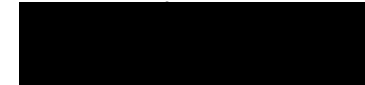
Relinquished by:



Date / Time:

20/3/24

Received by:



Date / Time:

21/3/24, 1058

RELINQUISHED BY: _____
 DATE TIME: _____

RECEIVED BY: _____
 DATE TIME: _____

RELINQUISHED BY: _____
 DATE TIME: _____

RECEIVED BY: _____
 DATE TIME: _____

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3

TURNAROUND REQUIREMENTS : 7 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

EMAIL REPORTS TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_QC350_240311		11/03/2024 02:27 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0874_MW122_240313		13/03/2024 02:21 PM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0874_MW057_240313		13/03/2024 02:35 PM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0874_MW112_240313		13/03/2024 02:52 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
005	0874_MW125_240313		13/03/2024 03:12 PM	WATER	ALS: 2 Non ALS: 0	No	X		
006	0874_MW034_240313		13/03/2024 03:32 PM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0874_MW224_240313		13/03/2024 03:46 PM	WATER	ALS: 2 Non ALS: 0	No	X		



Custody Document for Submissions via ALS Compass App

Project: QLD 0874 PRASOMP 24 Client: AECOM

Project Manager: [REDACTED]

ALS Compass COC Reference: 64881
64882
64883 # Samples: 81

Phone: ([REDACTED])

Sampler: [REDACTED]

Phone: ([REDACTED])

Turnaround Requirements: Standard 7 day TAT Urgent

Special Instructions:

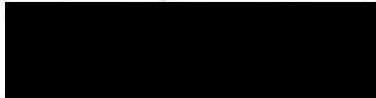
Please send to Melbourne.

ALS Use Only

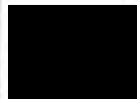
Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?	°C		

Custody:

Relinquished by:



Received by:



Date / Time:

19/3/24

Date / Time:

20/3/24 9:40am

Relinquished by:



Date / Time:

20/3/24

Received by:



Date / Time:

21/3/24, 1058

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:


CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 7 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SD129_240311		11/03/2024 11:21 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
002	0874_SW129_240311		11/03/2024 11:22 AM	WATER	ALS: 2 Non ALS: 0	No	X			
003	0874_SD017_240311		11/03/2024 11:41 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
004	0874_SW017_230311		11/03/2024 11:41 AM	WATER	ALS: 2 Non ALS: 0	No	X			
005	0874_SD021_240311		11/03/2024 12:17 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
006	0874_SW021_240311		11/03/2024 12:18 PM	WATER	ALS: 4 Non ALS: 0	No	X			Extra Volume
007	0874_SD120_240311		11/03/2024 12:30 PM	SOIL	ALS: 1 Non ALS: 0	No		X		

 CHAIN OF CUSTODY COC#: 64882 ALS Laboratory: ET Townsville Environmental	RELINQUISHED BY: DATE TIME:	RECEIVED BY: DATE TIME:	RELINQUISHED BY: DATE TIME:	RECEIVED BY: DATE TIME:
	CLIENT: AECOMAU - AECOM Australia Pty Ltd PROJECT: QLD_0874_PFSOMP_24 SITE: QLD_0874 ORDER NO: 60612487_2.3 PROJECT MANAGER: [REDACTED] CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED] PRIMARY SAMPLER: [REDACTED] QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017 EMAIL REPORTS TO: [REDACTED]		TURNAROUND REQUIREMENTS : 7 Days Biohazard info:	LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: C Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0874_MW055_240313		13/03/2024 03:50 PM	WATER	ALS: 4 Non ALS: 0	No	X			Additional volume collected
030	0874_MW054_240313		13/03/2024 03:40 PM	WATER	ALS: 2 Non ALS: 0	No	X			
031	0874_MW005_240313		14/03/2024 09:15 AM	WATER	ALS: 2 Non ALS: 0	No	X			
032	0874_MW081_240313		13/03/2024 02:30 PM	WATER	ALS: 2 Non ALS: 0	No	X			
033	0874_MW090_240313		13/03/2024 03:20 PM	WATER	ALS: 2 Non ALS: 0	No	X			
034	0874_QC302_240314		14/03/2024 03:35 PM	WATER	ALS: 2 Non ALS: 0	No	X			
035	0874_SW202_240315		15/03/2024 11:21 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume for lab QC

Townsville Esky Map

 Date Freighted: 20/3/24

 Consignment Number(s): TNT/Star Track/Toll MW 793818

TNT/ Star Track/Toll _____

 ATTN: Sample Receipt - Brisbane / Sydney / Melbourne / Newcastle / Scoresby / Food & Pharma

Fast Turn Around required for this WO: _____

WO #	ALS Client Code or name	Esky #	Extra info (soil, sediment, frozen, fast TAT, splits)
ES / EB / ET240	AECOM	1+2	W+S - compass
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
Total # of eskies in consignment:			

Thanks,
 TOWNSVILLE, QLD
 ALS | Environmental Division
 13 Carlton Street, Kirwan, Townsville QLD 4817 Australia





Environmental Division
Townsville
Work Order Reference
ET2401734



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD 0874 PFA SAMP 24 Client: AECOM

Project Manager: [Redacted]

ALS Compass COC Reference: 64881
64882
64883

Samples: 81

Phone: ([Redacted])

Sampler: [Redacted]

Phone: ([Redacted])

Turnaround Requirements: Standard 7 day TAT Urgent

Special Instructions:
Please send to Melbourne.

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

Custody:			
Relinquished by: [Redacted]	Received by: [Redacted]	Relinquished by: [Redacted]	Received by: [Redacted]
Date / Time: <u>19/3/24</u>	Date / Time: <u>20/3/24 9:40am</u>	Date / Time: <u>20/3/24</u>	Date / Time: <u>21/3/24, 1058</u>



Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA5COMP_24 Client: AECOM

Project Manager: [REDACTED]

Phone: ([REDACTED])

ALS Compass COC Reference: 65220 # Samples: 46

Sampler: [REDACTED]

Phone: [REDACTED]

Turnaround Requirements: Standard 7 day TAT Urgent

Special Instructions:

#42 - Please place on hold - PR 22/3

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?			°C

Custody:

<p>Relinquished by: [REDACTED]</p> <p>Date / Time: <u>22/3/24</u></p>	<p>Received by: [REDACTED]</p> <p>Date / Time: <u>11:30</u> <u>22/3/24</u></p>	<p>Relinquished by: [REDACTED]</p> <p>Date / Time:</p>	<p>Received by: [REDACTED]</p> <p>Date / Time: <u>ALS</u> <u>26/03/24 - 10:45</u></p>
---	--	--	---

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW236_240318		18/03/2024 09:38 AM	WATER	ALS: 2 Non ALS: 0	No	X			
002	0874_MW258_240318		18/03/2024 10:05 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
003	0874_MW257_240318		18/03/2024 10:20 AM	WATER	ALS: 2 Non ALS: 0	No	X			
004	0874_MW259_240318		18/03/2024 10:35 AM	WATER	ALS: 2 Non ALS: 0	No	X			
005	0874_MW260_240318		18/03/2024 10:48 AM	WATER	ALS: 2 Non ALS: 0	No	X			
006	0874_MW270_240318		18/03/2024 11:13 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab qc
007	0874_MW256_230418		18/03/2024 11:53 AM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY: _____
 DATE TIME: _____

RECEIVED BY: _____
 DATE TIME: _____

RELINQUISHED BY: _____
 DATE TIME: _____

RECEIVED BY: _____
 DATE TIME: _____

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: _____ SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0874_MW254_240318		18/03/2024 12:38 PM	WATER	ALS: 2 Non ALS: 0	No	X			
009	0874_MW262_240318		18/03/2024 12:50 PM	WATER	ALS: 2 Non ALS: 0	No	X			
010	0874_MW136_240318		18/03/2024 02:34 PM	WATER	ALS: 2 Non ALS: 0	No	X			
011	0874_QC305_240318		18/03/2024 04:44 PM	WATER	ALS: 2 Non ALS: 0	No	X			
012	0874_SW201_240319		19/03/2024 10:00 AM	WATER	ALS: 2 Non ALS: 0	No	X			
013	0874_SW210_240319		19/03/2024 10:45 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume for lab QC
014	0874_SW111_240319		19/03/2024 01:30 PM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume for lab QC

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
----------------	--	--	--	--	--	--	-------------------	--	--	--

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0874_SW110_240319		19/03/2024 01:52 PM	WATER	ALS: 2 Non ALS: 0	No	X			
016	0874_QC104_240319		19/03/2024 11:49 AM	WATER	ALS: 2 Non ALS: 0	No	X			
017	0874_MW253_240319		19/03/2024 11:51 AM	WATER	ALS: 2 Non ALS: 0	No	X			
018	0874_MW205_240319		19/03/2024 01:41 PM	WATER	ALS: 2 Non ALS: 0	No	X			
019	0874_MW301_240319		19/03/2024 01:54 PM	WATER	ALS: 2 Non ALS: 0	No	X			
020	0874_SD210_240319		19/03/2024 11:51 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
021	0874_SD111_240319		19/03/2024 12:53 PM	SOIL	ALS: 1 Non ALS: 0	No		X		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0874_SD110_240319		19/03/2024 01:56 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
023	0874_QC105_240319		19/03/2024 04:23 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
024	0874_SD108_240319		19/03/2024 04:23 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
025	0874_SD201_240319		19/03/2024 10:24 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
026	0874_SW108_240319		19/03/2024 04:27 PM	WATER	ALS: 2 Non ALS: 0	No	X			
027	0874_QC106_240319		19/03/2024 04:27 PM	WATER	ALS: 2 Non ALS: 0	No	X			
028	0874_QC306_240319		19/03/2024 04:28 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY: _____
 DATE TIME: _____

RECEIVED BY: _____
 DATE TIME: _____

RELINQUISHED BY: _____
 DATE TIME: _____

RECEIVED BY: _____
 DATE TIME: _____

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: _____ SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

Random Sample Temperature on Receipt: C
 Other comments:

EMAIL REPORTS TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0874_QC307_240319		19/03/2024 04:29 PM	WATER	ALS: 2 Non ALS: 0	No	X			
030	0874_MW140_240320		20/03/2024 09:12 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
031	0874_MW250_240320		20/03/2024 09:41 AM	WATER	ALS: 2 Non ALS: 0	No	X			
032	0874_MW235_240320		20/03/2024 12:54 PM	WATER	ALS: 2 Non ALS: 0	No	X			
033	0874_MW255_240320		20/03/2024 01:10 PM	WATER	ALS: 2 Non ALS: 0	No	X			
034	0874_QC107_240320		20/03/2024 01:11 PM	WATER	ALS: 2 Non ALS: 0	No	X			
035	0874_MW234_240320		20/03/2024 01:34 PM	WATER	ALS: 2 Non ALS: 0	No	X			

CHAIN OF CUSTODY COC#: 65220 ALS Laboratory: ET Townsville Environmental	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	C		
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
036	0874_MW214_240320		20/03/2024 03:54 PM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
037	0874_QC308_240320		20/03/2024 04:02 PM	WATER	ALS: 2 Non ALS: 0	No	X			
038	0874_MW226_240321		21/03/2024 01:49 PM	WATER	ALS: 2 Non ALS: 0	No	X			
039	0874_QC108_240321		21/03/2024 01:50 PM	WATER	ALS: 2 Non ALS: 0	No	X			
040	0874_MW228_240321		21/03/2024 02:09 PM	WATER	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
041	0874_MW229_240321		21/03/2024 02:35 PM	WATER	ALS: 2 Non ALS: 0	No	X			
042	0874_SD121_240321		21/03/2024 03:29 PM	SOIL	ALS: 1 Non ALS: 0	No		X		Hold please [REDACTED] 27/3

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_24

SITE: QLD_0874

ORDER NO: 60812487_2.3

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU0017

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
043	0874_MW222_240321		21/03/2024 03:30 PM	WATER	ALS: 2 Non ALS: 0	No	X			
044	0874_MW300_240321		21/03/2024 04:14 PM	WATER	ALS: 4 Non ALS: 0	No	X			Extra for lab GC
045	0874_QC309_240321		21/03/2024 05:14 PM	WATER	ALS: 2 Non ALS: 0	No	X			
046	0874_QC506_240322		22/03/2024 10:05 AM	WATER	ALS: 2 Non ALS: 0	No	X			



Environmental Division
Townsville
Work Order Reference
ET2401786



Telephone : +61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD 0874-PEASOMP-24 Client: AECOM

Project Manager: [Redacted]

Phone: ([Redacted])

ALS Compass COC Reference: 65293 # Samples: 70

Sampler: [Redacted]

Phone: [Redacted]

Turnaround Requirements: Standard 7 day TAT Urgent

Special Instructions:

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?	°C		

Custody:

Relinquished by: [Redacted]	Received by: [Redacted] 11:30 AM	Relinquished by:	Received by: [Redacted]
Date / Time: 22/3/24	Date / Time: 22/3/24	Date / Time:	Date / Time: 26/03/24 ~ 10:45

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SD102_240320		20/03/2024 10:00 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
002	0874_SW102_240320		20/03/2024 10:02 AM	WATER	ALS: 2 Non ALS: 0	No	X			
003	0874_SW013_240320		20/03/2024 10:39 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra Volume
004	0874_SD013_240320		20/03/2024 10:40 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
005	0874_SW131_240320		20/03/2024 10:52 AM	WATER	ALS: 2 Non ALS: 0	No	X			
006	0874_SD131_240320		20/03/2024 10:53 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
007	0874_SW016_240320		20/03/2024 11:10 AM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0874_SD016_240320		20/03/2024 11:12 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
009	0874_QC152_240320		20/03/2024 11:13 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
010	0874_SW125_240320		20/03/2024 11:43 AM	WATER	ALS: 2 Non ALS: 0	No	X			
011	0874_SD125_240320		20/03/2024 11:44 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
012	0874_SW123_240320		20/03/2024 12:02 PM	WATER	ALS: 2 Non ALS: 0	No	X			
013	0874_QC153_240320		20/03/2024 12:02 PM	WATER	ALS: 2 Non ALS: 0	No	X			
014	0874_SD123_240320		20/03/2024 12:04 PM	SOIL	ALS: 1 Non ALS: 0	No		X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0874_SW132_240320		20/03/2024 01:12 PM	WATER	ALS: 4 Non ALS: 0	No	X			
016	0874_SD132_240320		20/03/2024 01:02 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
017	0874_SW001_240320		20/03/2024 01:09 PM	WATER	ALS: 2 Non ALS: 0	No	X			
018	0874_SD001_240320		20/03/2024 01:11 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
019	0874_SD010_240320		20/03/2024 01:25 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
020	0874_SW010_240320		20/03/2024 01:27 PM	WATER	ALS: 2 Non ALS: 0	No	X			
021	0874_SW014_240320		20/03/2024 01:50 PM	WATER	ALS: 2 Non ALS: 0	No	X			

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

RELINQUISHED BY: [REDACTED]
 RECEIVED BY: [REDACTED]
 DATE TIME: [REDACTED]
 DATE TIME: [REDACTED]
 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

RECEIVED BY: [REDACTED]
 DATE TIME: [REDACTED]
 LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0874_SD014_230320		20/03/2024 01:56 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
023	0874_SW107_240320		20/03/2024 02:49 PM	WATER	ALS: 2 Non ALS: 0	No	X			
024	0874_SD107_240320		20/03/2024 02:50 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
025	0874_SW208_240320		20/03/2024 03:17 PM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume
026	0874_SD208_240320		20/03/2024 03:19 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
027	0874_SW109_240320		20/03/2024 03:36 PM	WATER	ALS: 2 Non ALS: 0	No	X			
028	0874_QC154_240320		20/03/2024 03:38 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU0017

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL		
029	0874_SD109_240320		20/03/2024 03:39 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
030	0874_QC155_240320		20/03/2024 03:39 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
031	0874_MW227_240320		20/03/2024 04:18 PM	WATER	ALS: 2 Non ALS: 0	No	X			
032	0874_QC354_240320		20/03/2024 04:35 PM	WATER	ALS: 2 Non ALS: 0	No	X			
033	0874_QC355_240320		20/03/2024 04:37 PM	WATER	ALS: 2 Non ALS: 0	No	X			
034	0874_MW244_230319		19/03/2024 08:22 AM	WATER	ALS: 2 Non ALS: 0	No	X			
035	0874_MW021_240319		19/03/2024 08:23 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL		
036	0874_MW015_240319		19/03/2024 08:24 AM	WATER	ALS: 2 Non ALS: 0	No	X			
037	0874_MW135_240319		19/03/2024 08:26 AM	WATER	ALS: 2 Non ALS: 0	No	X			
038	0874_QC151_240319		19/03/2024 08:27 AM	WATER	ALS: 2 Non ALS: 0	No	X			
039	0874_MW247_240319		19/03/2024 08:28 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume
040	0873_MW038_240319		19/03/2024 08:29 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume
041	0874_MW231_240319		19/03/2024 08:31 AM	WATER	ALS: 2 Non ALS: 0	No	X			
042	0874_MW043_240319		19/03/2024 08:31 AM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE

QUOTE NO: EB23AECOMAU0017

/ EB2023AECOMAU0017

7

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
043	0874_MW139_240319		19/03/2024 08:32 AM	WATER	ALS: 2 Non ALS: 0	No	X			
044	0874_MW061_240319		19/03/2024 08:33 AM	WATER	ALS: 2 Non ALS: 0	No	X			
045	0874_MW110_240319		19/03/2024 08:34 AM	WATER	ALS: 2 Non ALS: 0	No	X			
046	0874_MW009_240319		19/03/2024 08:34 AM	WATER	ALS: 2 Non ALS: 0	No	X			
047	0874_MW248_240319		19/03/2024 08:35 AM	WATER	ALS: 2 Non ALS: 0	No	X			
048	0874_MW109_240319		19/03/2024 08:36 AM	WATER	ALS: 2 Non ALS: 0	No	X			
049	0874_QC353_240319		19/03/2024 08:37 AM	WATER	ALS: 2 Non ALS: 0	No	X			

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE: [REDACTED]

/ EB2023AECOMAU0017

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
050	0874_MW237_240321		21/03/2024 10:35 AM	WATER	ALS: 2 Non ALS: 0	No	X			
051	0874_QC156_240321		21/03/2024 10:35 AM	WATER	ALS: 2 Non ALS: 0	No	X			
052	0874_MW239_240321		21/03/2024 11:16 AM	WATER	ALS: 2 Non ALS: 0	No	X			
053	0874_MW240_240321		21/03/2024 11:30 AM	WATER	ALS: 4 Non ALS: 0	No	X			extra volume
054	0874_MW208_240321		21/03/2024 12:15 PM	WATER	ALS: 2 Non ALS: 0	No	X			
055	0874_MW471_240321		21/03/2024 12:25 PM	WATER	ALS: 2 Non ALS: 0	No	X			
056	0874_MW467_240321		21/03/2024 12:35 PM	WATER	ALS: 2 Non ALS: 0	No	X			

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
057	0874_MW211_240321		21/03/2024 12:47 PM	WATER	ALS: 4 Non ALS: 0	No	X			extra volume
058	0874_MW212_240321		21/03/2024 01:05 PM	WATER	ALS: 2 Non ALS: 0	No	X			
059	0874_MW233_240321		21/03/2024 01:21 PM	WATER	ALS: 2 Non ALS: 0	No	X			
060	0874_MW252_240321		21/03/2024 01:32 PM	WATER	ALS: 2 Non ALS: 0	No	X			
061	0874_MW213_240321		21/03/2024 01:59 PM	WATER	ALS: 4 Non ALS: 0	No	X			extra volume
062	0874_MW215_240321		21/03/2024 02:58 PM	WATER	ALS: 2 Non ALS: 0	No	X			
063	0874_QC157_240321		21/03/2024 02:58 PM	WATER	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU0017

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							ALS: 2	Non ALS: 0		
064	0874_MW207_240321		21/03/2024 03:12 PM	WATER	ALS: 2 Non ALS: 0	No	X			
065	0874_MW206_240321		21/03/2024 03:13 PM	WATER	ALS: 2 Non ALS: 0	No	X			
066	0874_QC172_240321		21/03/2024 03:14 PM	WATER	ALS: 2 Non ALS: 0	No	X			
067	0874_QC173_240321		21/03/2024 03:15 PM	WATER	ALS: 2 Non ALS: 0	No	X			
068	0874_QC374_240321		21/03/2024 03:43 PM	WATER	ALS: 2 Non ALS: 0	No	X			
069	0874_QC356_240321		21/03/2024 03:58 PM	WATER	ALS: 2 Non ALS: 0	No	X			
070	0874_QC504_240322		22/03/2024 09:45 AM	WATER	ALS: 2 Non ALS: 0	No	X			



Telephone : +61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD-0874 PEASOMP-24 Client: AECOM Project Manager: [Redacted]

Phone: [Redacted]

ALS Compass COC Reference: 65294 # Samples: 16 Sampler: [Redacted]

Phone: [Redacted]

Turnaround Requirements: Standard 7 day TAT Urgent

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

Custody:			
Relinquished by: [Redacted]	Received by: [Redacted] 22/3/24	Relinquished by:	Received by: [Redacted]
Date / Time: 22/3/24	Date / Time: 11:30	Date / Time:	Date / Time: 26/03/24 - 10:45

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874
 ORDER NO: 60612487_2.3
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW225_240319		19/03/2024 10:18 AM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0874_QC170_240319		19/03/2024 10:18 AM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0874_MW221_240319		19/03/2024 12:28 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
004	0874_MW218_240319		19/03/2024 01:52 PM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0874_MW217_240319		19/03/2024 02:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
006	0874_MW216_240319		19/03/2024 02:52 PM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0874_QC372_240319		19/03/2024 04:22 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_24

SITE: QLD_0874

ORDER NO: 60612487_2.3

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE: [REDACTED]

/ EB2023AECOMAU0017

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	ALTERNATIVE ANALYSIS	
008	0874_MW267_240320		20/03/2024 01:19 PM	WATER	ALS: 2 Non ALS: 0	No	X		
009	0874_QC171_240320		20/03/2024 01:20 PM	WATER	ALS: 2 Non ALS: 0	No	X		
010	0874_MW220_240320		20/03/2024 01:36 PM	WATER	ALS: 2 Non ALS: 0	No	X		
011	0874_MW219_240320		20/03/2024 01:52 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC
012	0874_MW268_250320		20/03/2024 02:27 PM	WATER	ALS: 2 Non ALS: 0	No	X		
013	0874_MW263_240320		20/03/2024 02:48 PM	WATER	ALS: 2 Non ALS: 0	No	X		
014	0874_MW269_240320		20/03/2024 03:49 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume for lab QC

Townsville Esky Map

 Date Freighted: 25/3/24

 Consignment Number(s): TNT/Star Track/Toll MYTW859687
 TNT/ Star Track/Toll

 ATTN: Sample Receipt - Brisbane / Sydney/Melbourne/Newcastle/Scoresby/Food & Pharma

Fast Turn Around required for this WO: _____

WO #	ALS Client Code or name	Esky #	Extra info (soil, sediment, frozen, fast TAT, splits)
ES / EB / ET240	AECOM	1-3	W - COMPASS
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
Total # of eskies in consignment:			

Thanks,
 TOWNSVILLE, QLD
 ALS | Environmental Division
 13 Carlton Street, Kirwan, Townsville QLD 4817 Australia





Custody Document for Submissions via ALS Compass App

Project: QLD_0874-PFASOMP-24 Client: AECOM

Project Manager: [REDACTED]

Phone: [REDACTED]

ALS Compass COC Reference: 65428 # Samples: 17

Sampler: [REDACTED]

Phone: [REDACTED]

Turnaround Requirements: Standard 7 day TAT Urgent

Special Instructions:

Please send to ALS Melbourne

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?			°C

Custody:

<p>Relinquished by:</p> <p>[REDACTED]</p> <p>Date / Time:</p> <p>26.03.24 9:40</p>	<p>Received by:</p> <p>[REDACTED]</p> <p>Date / Time:</p> <p>26/3/24 9:40am</p>	<p>Relinquished by:</p> <p>[REDACTED]</p> <p>Date / Time:</p> <p>26/3/24</p>	<p>Received by:</p> <p>[REDACTED]</p> <p>Date / Time:</p> <p>27/3/24, 1034</p>
--	---	--	--

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP_24
 SITE: QLD_0874_MTMM_240322
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: EB23AECOMAU0017 / EB2023AECOMAU0017

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0874_MW261_240322		22/03/2024 02:30 PM	WATER	ALS: 2 Non ALS: 0	No	X			
009	0874_MW266_240322		22/03/2024 02:32 PM	WATER	ALS: 2 Non ALS: 0	No	X			
010	0874_MW470_240322		22/03/2024 03:12 PM	WATER	ALS: 2 Non ALS: 0	No	X			
011	0874_QC357_240322		22/03/2024 03:16 PM	WATER	ALS: 2 Non ALS: 0	No	X			
012	0874_QC358_240322		22/03/2024 02:32 PM	WATER	ALS: 2 Non ALS: 0	No	X			
013	0874_MW206_240325		25/03/2024 12:39 PM	WATER	ALS: 2 Non ALS: 0	No	X			
014	0874_MW246_240325		25/03/2024 01:53 PM	WATER	ALS: 2 Non ALS: 0	No	X			

Townsville Esky Map

 Date Freighted: 26/3/24

 Consignment Number(s): TNT/Star Track/Toll MYTW884247

TNT/ Star Track/Toll

ATTN: Sample Receipt - Brisbane / Sydney / Melbourne / Newcastle / Scoresby / Food & Pharma

Fast Turn Around required for this WO: _____

WO #	ALS Client Code or name	Esky #	Extra info (soil, sediment, frozen, fast TAT, splits)
ES / EB / ET240	AECOM	1	water - COMPASS
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
ES / EB / ET240			
Total # of eskies in consignment:			

Thanks,
 TOWNSVILLE, QLD
 ALS Environmental Division
 13 Carlton Street, Kirwan, Townsville QLD 4817 Australia





Environmental Division
Townsville
Work Order Reference
ET2401926



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD OFFSHORE 24 Client: Defence Project Manager: [REDACTED]

ALS Compass COC Reference: 65670 # Samples: 4 Sampler: [REDACTED]

Turnaround Requirements: Standard 5 Urgent

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

Custody:

Relinquished by: [REDACTED]	Received by: [REDACTED]	Relinquished by:	Received by: [REDACTED]
Date / Time: <u>28/3/24</u>	Date / Time: <u>28/3/24 11:30am</u>	Date / Time:	Date / Time: <u>03/04/24 - 10:02</u>

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP_24

SITE: QLD_0874_PFASOMP_24

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

CONTACT PH:

QUOTE NO: EB23AECOMAU0017

SAMPLER MOBILE:

/ EB2023AECOMAU0017

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							Table 1 - Water Analysis WATER	Table 2 - Soil Analysis SOIL		
001	0874_SW126_240328		28/03/2024 09:52 AM	WATER	ALS: 4 Non ALS: 0	No	X			Extra volume
002	0874_SD126_240328		28/03/2024 09:55 AM	SOIL	ALS: 1 Non ALS: 0	No		X		
003	0874_SW121_240328		28/03/2024 10:50 AM	WATER	ALS: 2 Non ALS: 0	No	X			
004	0874_SD121_240328		28/03/2024 10:53 AM	SOIL	ALS: 1 Non ALS: 0	No		X		

ANZ
FQM - Generic Chain of Custody Form

CONSULTANT: AECOM		ADDRESS: Townsville		SAMPLER: [REDACTED]		Destination Laboratory: Eurofins	
PROJECT MANAGER (PM): [REDACTED]		SITE: 8874		MOBILE: [REDACTED]		PHONE: [REDACTED]	
PROJECT NUMBER & TASK CODE: QLD 8874 PFASOMP 24		P.O. NO.: 80612487_2.1		EMAIL REPORT TO: [REDACTED]			
RESULTS REQUIRED (Date): 7 day TAT		QUOTE NO.:		ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices):			
FOR LABORATORY USE ONLY COOLER SEAL (circle appropriate) Intact: Yes No N/A SAMPLE TEMPERATURE CHILLED: Yes No		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL		PFAS full suite (28 analytes) HOLD		Notes: e.g. Highly contaminated samples e.g. "High PAHs expected" Extra volume for OC or trace LOAs etc.	
SAMPLE INFORMATION (only 2 - 3rd, 8th-10th) CONTAINER INFORMATION							
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	
	0874_OC200_240311	W	11/03/2024		2 x P	2	X
	0874_OC201_240311	S	11/03/2024		2 x P	2	X
	0874_OC202_240315	W	15/03/2024		2 x P	2	X
	0874_OC203_240315	S	15/03/2024		1 x jar	1	X
	0874_OC250_240314	W	14/03/2024		1 x jar	1	X
	0874_OC503_240319	W	19/03/2024		2 x P	2	X
	0874_OC205_240319	S	19/03/2024		1 x jar	1	X
	0874_OC206_240319	W	19/03/2024		2 x P	2	X
	0874_OC204_240319	W	19/03/2024		2 x P	2	X
	0874_OC251_240319	W	19/03/2024		2 x P	2	X
	0874_OC270_240319	W	19/03/2024		2 x P	2	X
RECEIVED BY:		RECEIVED BY:		RECEIVED BY:		METHOD OF SHIPMENT	
Name: [REDACTED]	Date: 20/3/24	Name: [REDACTED]	Date: 20/3/24	Name: [REDACTED]	Date:	Con' Note No:	
Of: AECOM	Time: 9:10	Of: TSV	Time: 9:30	Of:	Time:	Transport Co:	

13°C . # 1079816

#1082188

AECOM

ANZ
FQM - Generic Chain of Custody Form

QMAN(EV)-007-FM1

CONSULTANT: AECOM		ADDRESS: Townsville		SAMPLE ID: [REDACTED]		Destination Laboratory: Eurofins																																																																																																															
PROJECT MANAGER (PM): [REDACTED]		SITE: 8874		MOBILE: [REDACTED]		PHONE: [REDACTED]																																																																																																															
PROJECT NUMBER & TASK CODE: QLD_0874_PFA5OMP_24		P.O. NO.: 60612487_2.1		ENMS REPORT TO: [REDACTED]																																																																																																																	
RESULTS REQUIRED (Date): 7 day TAT		QUOTE NO:		ANALYSIS REQUIRED (including BUYER (note - sub codes must be listed to attract sub prices))																																																																																																																	
FOR LABORATORY USE ONLY COOLER SEAL (date appropriate) Start: Yes No N/A SAMPLE TEMPERATURE CHILLED: Yes No		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL		PFA5 full subcode (8 analysis)		Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for OC or trace LORs etc.																																																																																																															
SAMPLE INFORMATION (note: S = Soil, W=Water) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ALS ID</th> <th>SAMPLE ID</th> <th>MATRIX</th> <th>DATE</th> <th>Time</th> <th>Type / Code</th> <th>Total bottles</th> <th></th> </tr> </thead> <tbody> <tr><td></td><td>0874_QC207_240320</td><td>W</td><td>20/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC208_240321</td><td>W</td><td>21/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC271_240320</td><td>W</td><td>21/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC272_240321</td><td>W</td><td>21/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC273_240321</td><td>W</td><td>21/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC252_240320</td><td>S</td><td>20/03/2024</td><td></td><td>1 x jar</td><td>1</td><td>X</td></tr> <tr><td></td><td>0874_QC253_240320</td><td>W</td><td>20/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC254_240320</td><td>W</td><td>20/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC255_240320</td><td>S</td><td>20/03/2024</td><td></td><td>1 x jar</td><td>1</td><td>X</td></tr> <tr><td></td><td>0874_QC256_240321</td><td>W</td><td>21/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC257_240321</td><td>W</td><td>21/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC258_240322</td><td>W</td><td>22/03/2024</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> <tr><td></td><td>0874_QC509_240325</td><td>W</td><td>25/3/24</td><td></td><td>2 x P</td><td>2</td><td>X</td></tr> </tbody> </table>		ALS ID	SAMPLE ID					MATRIX	DATE	Time	Type / Code	Total bottles			0874_QC207_240320	W	20/03/2024		2 x P	2	X		0874_QC208_240321	W	21/03/2024		2 x P	2	X		0874_QC271_240320	W	21/03/2024		2 x P	2	X		0874_QC272_240321	W	21/03/2024		2 x P	2	X		0874_QC273_240321	W	21/03/2024		2 x P	2	X		0874_QC252_240320	S	20/03/2024		1 x jar	1	X		0874_QC253_240320	W	20/03/2024		2 x P	2	X		0874_QC254_240320	W	20/03/2024		2 x P	2	X		0874_QC255_240320	S	20/03/2024		1 x jar	1	X		0874_QC256_240321	W	21/03/2024		2 x P	2	X		0874_QC257_240321	W	21/03/2024		2 x P	2	X		0874_QC258_240322	W	22/03/2024		2 x P	2	X		0874_QC509_240325	W	25/3/24		2 x P	2	X
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles																																																																																																															
	0874_QC207_240320	W	20/03/2024		2 x P	2	X																																																																																																														
	0874_QC208_240321	W	21/03/2024		2 x P	2	X																																																																																																														
	0874_QC271_240320	W	21/03/2024		2 x P	2	X																																																																																																														
	0874_QC272_240321	W	21/03/2024		2 x P	2	X																																																																																																														
	0874_QC273_240321	W	21/03/2024		2 x P	2	X																																																																																																														
	0874_QC252_240320	S	20/03/2024		1 x jar	1	X																																																																																																														
	0874_QC253_240320	W	20/03/2024		2 x P	2	X																																																																																																														
	0874_QC254_240320	W	20/03/2024		2 x P	2	X																																																																																																														
	0874_QC255_240320	S	20/03/2024		1 x jar	1	X																																																																																																														
	0874_QC256_240321	W	21/03/2024		2 x P	2	X																																																																																																														
	0874_QC257_240321	W	21/03/2024		2 x P	2	X																																																																																																														
	0874_QC258_240322	W	22/03/2024		2 x P	2	X																																																																																																														
	0874_QC509_240325	W	25/3/24		2 x P	2	X																																																																																																														
RELINQUISHED BY:		RECEIVED BY:		RECEIVED BY:		METHOD OF SHIPMENT																																																																																																															
Name: [REDACTED]		Name: [REDACTED]		Name: [REDACTED]		Con' Note No:																																																																																																															
Date: 26.07.24		Date: [REDACTED]		Date: [REDACTED]		Transport Co:																																																																																																															
Time: 10:00		Time: [REDACTED]		Time: [REDACTED]																																																																																																																	
OF: AECOM		OF: [REDACTED]		OF: [REDACTED]																																																																																																																	
<small>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 = Arsenic Unpreserved Plastic V = VOA Val HCl Preserved, VS = VOA Val Sodium Sulphate Preserved, VS = VOA Val Sulphic Preserved, AV = Arsenic Unpreserved Val SG = Sulphic Preserved Amber Glass, H = HCl preserved Plastic, HS = HCl preserved Speciation bottle, SP = Sulphic Preserved Plastic F = FormicHydro Preserved Glass, Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Soils, S = Unpreserved Bag Soil Container Codes: Jar = Unpreserved glass jar</small>																																																																																																																					

Date/Time: 23/3/24 10:30 am
 CHARGE: [REDACTED]
 TIME: [REDACTED]
 Corrections: [REDACTED]
 Final Temp: [REDACTED]



Appendix E

Laboratory Analytical Reports



CERTIFICATE OF ANALYSIS

Work Order : **ET2401732**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 5423
TOWNSVILLE QLD, AUSTRALIA 4810
Telephone : ----
Project : QLD_0874_PFASOMP_24
Order number : 60612487_2.3
C-O-C number : 64881
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 16
No. of samples analysed : 16

Page : 1 of 11
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 21-Mar-2024 09:58
Date Analysis Commenced : 26-Mar-2024
Issue Date : 28-Mar-2024 17:02



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

Melbourne Organics, Springvale, VIC



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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Poor matrix spike recovery for sample ET2401732-014 due to sample matrix interference. Confirmed by re-analysis.
- EP231X: Samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- 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, PFTTrDA 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC350_240311	0874_MW122_240313	0874_MW057_240313	0874_MW112_240313	0874_MW125_240313
Sampling date / time				11-Mar-2024 14:27	13-Mar-2024 14:21	13-Mar-2024 14:35	13-Mar-2024 14:52	13-Mar-2024 15:12	
Compound	CAS Number	LOR	Unit	ET2401732-001	ET2401732-002	ET2401732-003	ET2401732-004	ET2401732-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.02	0.80	4.62	2.88	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.56	7.17	4.37	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.04	3.86	106	111	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.13	6.50	4.86	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.01	1.41	99.4	306	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	0.09	<0.04	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.9	0.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.32	3.04	2.46	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	1.69	22.4	18.5	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.09	2.03	1.19	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.10	5.40	2.45	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.09	0.07	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.04	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC350_240311	0874_MW122_240313	0874_MW057_240313	0874_MW112_240313	0874_MW125_240313
Sampling date / time				11-Mar-2024 14:27	13-Mar-2024 14:21	13-Mar-2024 14:35	13-Mar-2024 14:52	13-Mar-2024 15:12	
Compound	CAS Number	LOR	Unit	ET2401732-001	ET2401732-002	ET2401732-003	ET2401732-004	ET2401732-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
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	0.07	8.96	258	454	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.05	5.27	205	417	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.07	8.27	244	445	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	113	97.1	101	112	85.0	
13C8-PFOA	----	0.02	%	97.9	100	104	96.4	89.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW034_240313	0874_MW224_240313	0874_QC351_240313	0874_MW232_240314	0874_QC150_240314
Sampling date / time					13-Mar-2024 15:32	13-Mar-2024 15:46	13-Mar-2024 16:01	14-Mar-2024 12:39	14-Mar-2024 12:39
Compound	CAS Number	LOR	Unit	ET2401732-006	ET2401732-007	ET2401732-008	ET2401732-009	ET2401732-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.87	0.48	<0.02	0.65	0.60	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.90	0.28	<0.02	0.76	0.63	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	12.9	1.59	<0.01	6.05	5.38	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.39	0.08	<0.02	0.45	0.46	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.37	1.95	<0.01	14.1	13.9	
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	0.2	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.77	0.06	<0.02	0.31	0.29	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.46	0.28	<0.02	0.97	0.95	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.37	0.03	<0.02	0.16	0.15	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.50	0.05	<0.01	0.38	0.38	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW034_240313	0874_MW224_240313	0874_QC351_240313	0874_MW232_240314	0874_QC150_240314
Sampling date / time					13-Mar-2024 15:32	13-Mar-2024 15:46	13-Mar-2024 16:01	14-Mar-2024 12:39	14-Mar-2024 12:39
Compound	CAS Number	LOR	Unit	ET2401732-006	ET2401732-007	ET2401732-008	ET2401732-009	ET2401732-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	28.8	4.80	<0.01	24.0	22.9	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	16.3	3.54	<0.01	20.2	19.3	
Sum of PFAS (WA DER List)	----	0.01	µg/L	25.5	4.44	<0.01	22.8	21.8	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	105	110	109	108	
13C8-PFOA	----	0.02	%	98.6	105	98.9	100	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW033_240314	0874_MW063_240314	0874_MW120_240314	0874_MW026_240314	0874_QC352_240314
Sampling date / time				14-Mar-2024 13:55	14-Mar-2024 14:18	14-Mar-2024 14:46	14-Mar-2024 15:10	14-Mar-2024 15:25	
Compound	CAS Number	LOR	Unit	ET2401732-011	ET2401732-012	ET2401732-013	ET2401732-014	ET2401732-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.26	1.46	0.56	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.28	1.90	0.59	0.03	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.37	12.8	4.63	0.38	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.33	0.99	0.27	0.05	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	12.9	30.0	8.55	1.94	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.42	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.6	0.2	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.45	1.07	0.33	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.00	4.38	1.54	0.09	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.36	0.62	0.19	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.69	1.21	0.50	0.04	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.04	0.03	<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	0.16	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW033_240314	0874_MW063_240314	0874_MW120_240314	0874_MW026_240314	0874_QC352_240314
Sampling date / time				14-Mar-2024 13:55	14-Mar-2024 14:18	14-Mar-2024 14:46	14-Mar-2024 15:10	14-Mar-2024 15:25	
Compound	CAS Number	LOR	Unit	ET2401732-011	ET2401732-012	ET2401732-013	ET2401732-014	ET2401732-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.18	<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	19.5	55.2	17.4	2.55	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.3	42.8	13.2	2.32	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	18.2	52.3	16.5	2.47	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	114	111	114	95.8	113	
13C8-PFOA	----	0.02	%	99.5	98.6	101	87.2	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_240318	----	----	----	----
Sampling date / time				18-Mar-2024 14:54	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2401732-016	-----	-----	-----	-----	-----
				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	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_240318	----	----	----	----
Sampling date / time				18-Mar-2024 14:54	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401732-016	-----	-----	-----	-----	
				Result	---	---	---	---	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----	
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	%	131	----	----	----	----	
13C8-PFOA	----	0.02	%	128	----	----	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401732	Page	: 1 of 6
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 21-Mar-2024
Site	: QLD_0874	Issue Date	: 28-Mar-2024
Sampler	: [REDACTED]	No. of samples received	: 16
Order number	: 60612487_2.3	No. of samples analysed	: 16

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	ET2401732--014	0874_MW026_240314	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	ET2401732--014	0874_MW026_240314	Perfluorohexanoic acid (PFHxA)	307-24-4	65.8 %	72.0-129%	Recovery less than lower data quality objective
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2401732--014	0874_MW026_240314	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	63.4 %	70.0-130%	Recovery less than lower 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) 0874_QC350_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓	
HDPE (no PTFE) (EP231X) 0874_MW122_240313, 0874_MW112_240313, 0874_MW034_240313, 0874_QC351_240313	0874_MW057_240313, 0874_MW125_240313, 0874_MW224_240313,	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW232_240314, 0874_MW033_240314, 0874_MW120_240314, 0874_QC352_240314	0874_QC150_240314, 0874_MW063_240314, 0874_MW026_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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) 0874_QC350_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓	
HDPE (no PTFE) (EP231X) 0874_MW122_240313, 0874_MW112_240313, 0874_MW034_240313, 0874_QC351_240313	0874_MW057_240313, 0874_MW125_240313, 0874_MW224_240313,	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW232_240314, 0874_MW033_240314, 0874_MW120_240314, 0874_QC352_240314	0874_QC150_240314, 0874_MW063_240314, 0874_MW026_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_QC350_240311		11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW122_240313, 0874_MW112_240313, 0874_MW034_240313, 0874_QC351_240313	0874_MW057_240313, 0874_MW125_240313, 0874_MW224_240313,	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW232_240314, 0874_MW033_240314, 0874_MW120_240314, 0874_QC352_240314	0874_QC150_240314, 0874_MW063_240314, 0874_MW026_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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) 0874_QC350_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓	
HDPE (no PTFE) (EP231X) 0874_MW122_240313, 0874_MW112_240313, 0874_MW034_240313, 0874_QC351_240313	0874_MW057_240313, 0874_MW125_240313, 0874_MW224_240313,	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW232_240314, 0874_MW033_240314, 0874_MW120_240314, 0874_QC352_240314	0874_QC150_240314, 0874_MW063_240314, 0874_MW026_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_QC350_240311		11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW122_240313, 0874_MW112_240313, 0874_MW034_240313, 0874_QC351_240313	0874_MW057_240313, 0874_MW125_240313, 0874_MW224_240313,	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW232_240314, 0874_MW033_240314, 0874_MW120_240314, 0874_QC352_240314	0874_QC150_240314, 0874_MW063_240314, 0874_MW026_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC500_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
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



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.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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 5.4, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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.



QUALITY CONTROL REPORT

Work Order	: ET2401732	Page	: 1 of 7
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5423 TOWNSVILLE QLD, AUSTRALIA 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 21-Mar-2024
Order number	: 60612487_2.3	Date Analysis Commenced	: 26-Mar-2024
C-O-C number	: 64881	Issue Date	: 28-Mar-2024
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 16		
No. of samples analysed	: 16		



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	Melbourne Organics, Springvale, VIC



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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5687815)									
ET2401732-004	0874_MW112_240313	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01 (0.36)*	µg/L	106	115	7.6	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (0.36)*	µg/L	99.4	99.8	0.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02 (0.04)*	µg/L	4.62	4.44	3.9	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02 (0.36)*	µg/L	7.17	7.85	9.0	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02 (0.36)*	µg/L	6.50	6.59	1.3	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02 (0.04)*	µg/L	0.09	0.10	0.0	No Limit
ET2401732-011	0874_MW033_240314	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.37	2.42	2.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	12.9	11.4	12.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.26	0.24	9.3	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.28	0.28	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.33	0.28	16.1	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.42	0.37	11.3	0% - 20%
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5687815)									
ET2401732-004	0874_MW112_240313	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01 (0.04)*	µg/L	5.40	5.18	4.2	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02 (0.04)*	µg/L	3.04	2.97	2.5	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02 (0.04)*	µg/L	22.4	22.0	1.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02 (0.04)*	µg/L	2.03	1.96	3.4	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02 (0.04)*	µg/L	0.09	0.08	20.9	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02 (0.04)*	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02 (0.04)*	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02 (0.04)*	µg/L	<0.04	<0.04	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: 5687815) - continued									
ET2401732-004	0874_MW112_240313	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02 (0.04)*	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05 (0.09)*	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1 (0.2)*	µg/L	0.9	0.9	0.0	No Limit
ET2401732-011	0874_MW033_240314	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.69	0.64	6.9	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.45	0.46	2.3	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.00	1.01	1.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.36	0.37	3.5	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.04	0.04	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	0.2	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5687815)									
ET2401732-004	0874_MW112_240313	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02 (0.04)*	µg/L	0.05	0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02 (0.04)*	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02 (0.04)*	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05 (0.09)*	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05 (0.09)*	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05 (0.09)*	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05 (0.09)*	µg/L	<0.09	<0.09	0.0	No Limit
ET2401732-011	0874_MW033_240314	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.16	0.16	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



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: 5687815) - continued									
ET2401732-011	0874_MW033_240314	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: 5687815)									
ET2401732-004	0874_MW112_240313	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
ET2401732-011	0874_MW033_240314	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: 5687815)									
ET2401732-004	0874_MW112_240313	EP231X: Sum of PFAS	----	0.01 (0.04)*	µg/L	258	267	3.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (0.04)*	µg/L	205	215	4.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01 (0.04)*	µg/L	244	252	3.4	0% - 20%
ET2401732-011	0874_MW033_240314	EP231X: Sum of PFAS	----	0.01	µg/L	19.5	17.9	8.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.3	13.8	10.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	18.2	16.7	8.5	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687815)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	85.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	90.7	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	88.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.9	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	89.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	88.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687815)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	87.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	85.5	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.7	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	90.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	84.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	77.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	77.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	91.2	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5687815)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.3	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.5	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	83.7	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	87.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	95.5	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	71.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687815)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687815) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	89.7	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	87.2	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	93.0	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	76.1	70.0	130
EP231P: PFAS Sums (QCLot: 5687815)								
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	Spike Recovery(%)	Acceptable Limits (%)
				Concentration	MS	Low High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687815)						
ET2401732-014	0874_MW026_240314	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	88.8	72.0 130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	80.7	71.0 127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	# Not Determined	68.0 131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	80.8	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	81.3	53.0 142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687815)						
ET2401732-014	0874_MW026_240314	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.1	73.0 129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	84.8	72.0 129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# 65.8	72.0 129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	79.9	72.0 130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	84.9	71.0 133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	85.9	69.0 130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	82.3	71.0 129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	75.2	69.0 133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	76.9	72.0 134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	70.0	65.0 144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	78.1	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: 5687815)							
ET2401732-014	0874_MW026_240314	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	74.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	87.7	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	77.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	72.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	79.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.7	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	61.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687815)							
ET2401732-014	0874_MW026_240314	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	96.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	101	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 63.4	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2401732

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5423 TOWNSVILLE QLD, AUSTRALIA 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 3
Order number	: 60612487_2.3	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 64881	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 21-Mar-2024 09:58	Issue Date	: 23-Mar-2024
Client Requested Due Date	: 28-Mar-2024	Scheduled Reporting Date	: 28-Mar-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 8.3°C
Receipt Detail	:	No. of samples received / analysed	: 16 / 16

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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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)
ET2401732-001	11-Mar-2024 14:27	0874_QC350_240311	✓
ET2401732-002	13-Mar-2024 14:21	0874_MW122_240313	✓
ET2401732-003	13-Mar-2024 14:35	0874_MW057_240313	✓
ET2401732-004	13-Mar-2024 14:52	0874_MW112_240313	✓
ET2401732-005	13-Mar-2024 15:12	0874_MW125_240313	✓
ET2401732-006	13-Mar-2024 15:32	0874_MW034_240313	✓
ET2401732-007	13-Mar-2024 15:46	0874_MW224_240313	✓
ET2401732-008	13-Mar-2024 16:01	0874_QC351_240313	✓
ET2401732-009	14-Mar-2024 12:39	0874_MW232_240314	✓
ET2401732-010	14-Mar-2024 12:39	0874_QC150_240314	✓
ET2401732-011	14-Mar-2024 13:55	0874_MW033_240314	✓
ET2401732-012	14-Mar-2024 14:18	0874_MW063_240314	✓
ET2401732-013	14-Mar-2024 14:46	0874_MW120_240314	✓
ET2401732-014	14-Mar-2024 15:10	0874_MW026_240314	✓
ET2401732-015	14-Mar-2024 15:25	0874_QC352_240314	✓
ET2401732-016	18-Mar-2024 14:54	0874_QC500_240318	✓

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



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



DERP ESDAT REPORTS

- A4 - AU Tax Invoice (INV)

Email



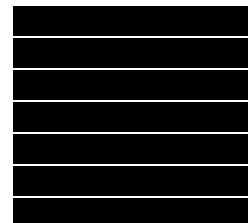
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums



CERTIFICATE OF ANALYSIS

Work Order : **ET2401733**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 5423
TOWNSVILLE QLD, AUSTRALIA 4810
Telephone : ----
Project : QLD_0874_PFSOMP_24
Order number : 60612487_2.3
C-O-C number : 64882
Sampler : [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 50
No. of samples analysed : 50

Page : 1 of 30
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 21-Mar-2024 09:58
Date Analysis Commenced : 26-Mar-2024
Issue Date : 28-Mar-2024 17:02



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]	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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.

- Samples 9, 12, 15, 16, 18 & 25 high in moisture. Air-drying not required as per PR. Analyse as received.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X: LOR for particular samples have been raised due to the high moisture content.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- 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, PFTTrDA 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.
- 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, PFTTrDA 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 or as per USEPA 1633 limits where LISTED. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)		Sample ID		0874_QC302_240314	----	----	----	----
		Sampling date / time		14-Mar-2024 15:35	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2401733-034	-----	-----	-----	-----
				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	----	----	----	----



Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)		Sample ID	0874_QC302_240314		----	----	----	----
		Sampling date / time	14-Mar-2024 15:35		----	----	----	----
Compound	CAS Number	LOR	Unit	ET2401733-034	-----	-----	-----	-----
				Result	---	---	---	---
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----
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	%	103	----	----	----	----



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD202_240315	0874_SD205_240315	0874_SD207_240315	0874_SD206_240315	0874_SD203_240315
Sampling date / time				15-Mar-2024 11:24	15-Mar-2024 11:51	15-Mar-2024 11:54	15-Mar-2024 12:26	15-Mar-2024 13:47	
Compound	CAS Number	LOR	Unit	ET2401733-036	ET2401733-038	ET2401733-040	ET2401733-042	ET2401733-044	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	25.7	47.6	46.3	43.5	46.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<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	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0005	0.0006	0.0003	0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0004	0.0041	0.0030	0.0024	0.0035	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<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	<0.0002	
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	<0.0002	<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	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD202_240315	0874_SD205_240315	0874_SD207_240315	0874_SD206_240315	0874_SD203_240315
Sampling date / time					15-Mar-2024 11:24	15-Mar-2024 11:51	15-Mar-2024 11:54	15-Mar-2024 12:26	15-Mar-2024 13:47
Compound	CAS Number	LOR	Unit	ET2401733-036	ET2401733-038	ET2401733-040	ET2401733-042	ET2401733-044	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<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	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<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	<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	<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	<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	<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	<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	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0004	0.0046	0.0036	0.0027	0.0039	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0004	0.0046	0.0036	0.0027	0.0037	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0004	0.0046	0.0036	0.0027	0.0039	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	84.8	92.5	91.2	105	78.0	
13C8-PFOA	----	0.0002	%	107	88.0	86.8	104	105	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD204_240315	0874_QC103_240315	----	----	----
Sampling date / time				15-Mar-2024 13:25	15-Mar-2024 13:01	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-046	ET2401733-048	-----	-----	-----	
				Result	Result	----	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	46.3	48.8	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0005	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0019	0.0031	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD204_240315	0874_QC103_240315	----	----	----
Sampling date / time				15-Mar-2024 13:25	15-Mar-2024 13:01	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-046	ET2401733-048	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<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	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0019	0.0036	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0019	0.0036	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0019	0.0036	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	86.8	89.8	----	----	----	
13C8-PFOA	----	0.0002	%	101	90.8	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD129_240311	0874_SD017_240311	0874_SD021_240311	0874_SD120_240311	0874_SD127_240311
Sampling date / time				11-Mar-2024 11:21	11-Mar-2024 11:41	11-Mar-2024 12:17	11-Mar-2024 12:30	11-Mar-2024 12:58	
Compound	CAS Number	LOR	Unit	ET2401733-001	ET2401733-003	ET2401733-005	ET2401733-007	ET2401733-009	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	43.3	21.6	26.2	46.0	64.5	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	<0.0002	0.0002	0.0022	0.0019	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.002	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
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	<0.0004	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0003	<0.0004	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0004	<0.0004	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0013	0.0005	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0004	<0.0004	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	0.0007	<0.0010	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD129_240311	0874_SD017_240311	0874_SD021_240311	0874_SD120_240311	0874_SD127_240311
Sampling date / time					11-Mar-2024 11:21	11-Mar-2024 11:41	11-Mar-2024 12:17	11-Mar-2024 12:30	11-Mar-2024 12:58
Compound	CAS Number	LOR	Unit	ET2401733-001	ET2401733-003	ET2401733-005	ET2401733-007	ET2401733-009	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
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	<0.0010	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0005	<0.0002	0.0002	0.0053	0.0024	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0005	<0.0002	0.0002	0.0022	0.0019	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0005	<0.0002	0.0002	0.0022	0.0019	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	93.0	97.0	83.0	81.6	88.2	
13C8-PFOA	----	0.0002	%	106	101	102	101	104	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_240311	0874_QC101_240311	0874_SD118_240311	0874_SD115_240311	0874_SD113_240311
Sampling date / time				11-Mar-2024 14:06	11-Mar-2024 14:10	11-Mar-2024 14:25	11-Mar-2024 14:55	11-Mar-2024 15:24	
Compound	CAS Number	LOR	Unit	ET2401733-012	ET2401733-015	ET2401733-016	ET2401733-018	ET2401733-020	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	62.9	62.7	64.0	59.2	33.3	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0030	0.0031	0.0030	<0.0004	0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0041	0.0040	0.0041	<0.0004	0.0003	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0382	0.0396	0.0404	0.0017	0.0040	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0056	0.0052	0.0066	<0.0004	0.0004	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.474	0.428	0.311	0.0196	0.0344	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0045	0.0027	0.0025	0.0006	0.0006	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.002	<0.002	<0.002	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0012	0.0011	0.0016	<0.0004	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0051	0.0049	0.0074	0.0005	0.0004	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0011	0.0012	0.0019	<0.0004	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0046	0.0049	0.0081	<0.0004	0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0004	0.0006	0.0005	<0.0004	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0004	<0.0004	<0.0004	<0.0004	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0004	<0.0004	<0.0004	<0.0004	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0005	0.0006	<0.0004	<0.0004	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	0.0005	0.0004	<0.0004	<0.0004	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0017	0.0014	<0.0004	<0.0004	<0.0002	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_240311	0874_QC101_240311	0874_SD118_240311	0874_SD115_240311	0874_SD113_240311
Sampling date / time				11-Mar-2024 14:06	11-Mar-2024 14:10	11-Mar-2024 14:25	11-Mar-2024 14:55	11-Mar-2024 15:24	
Compound	CAS Number	LOR	Unit	ET2401733-012	ET2401733-015	ET2401733-016	ET2401733-018	ET2401733-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0004	<0.0004	<0.0004	<0.0004	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0004	<0.0004	<0.0004	<0.0004	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.544	0.498	0.387	0.0224	0.0405	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.512	0.468	0.351	0.0213	0.0384	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.527	0.483	0.373	0.0218	0.0392	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	95.8	91.8	96.8	86.3	95.0	
13C8-PFOA	----	0.0002	%	86.2	86.0	89.0	106	88.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD114_240311	0874_SD116_240311	----	----	----
Sampling date / time				11-Mar-2024 15:34	11-Mar-2024 15:48	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-023	ET2401733-025	-----	-----	-----	
				Result	Result	----	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	36.6	63.0	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0016	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0026	0.0123	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.002	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0005	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD114_240311	0874_SD116_240311	----	----	----
Sampling date / time				11-Mar-2024 15:34	11-Mar-2024 15:48	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-023	ET2401733-025	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0004	----	----	----	
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	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0010	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0026	0.0144	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0026	0.0139	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0026	0.0144	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.6	80.6	----	----	----	
13C8-PFOA	----	0.0002	%	96.4	96.2	----	----	----	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW202_240315	0874_SW205_240315	0874_SW204_240315	----	----
Sampling date / time				15-Mar-2024 11:21	15-Mar-2024 11:50	15-Mar-2024 13:24	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-035	ET2401733-037	ET2401733-045	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.03	<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	0.04	0.10	0.11	----	----	
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	0.04	0.13	0.08	----	----	
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	0.04	0.04	----	----	
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	0.02	<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	----	----	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW202_240315	0874_SW205_240315	0874_SW204_240315	----	----
Sampling date / time				15-Mar-2024 11:21	15-Mar-2024 11:50	15-Mar-2024 13:24	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-035	ET2401733-037	ET2401733-045	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
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	0.08	0.32	0.23	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.23	0.19	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.08	0.32	0.23	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	105	109	----	----	
13C8-PFOA	----	0.02	%	103	104	106	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_240311	0874_SW017_230311	0874_SW021_240311	0874_SW120_240311	0874_SW127_240311
Sampling date / time				11-Mar-2024 11:22	11-Mar-2024 11:41	11-Mar-2024 12:18	11-Mar-2024 12:31	11-Mar-2024 12:59	
Compound	CAS Number	LOR	Unit	ET2401733-002	ET2401733-004	ET2401733-006	ET2401733-008	ET2401733-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.07	<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	0.03	0.21	0.04	<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	0.04	0.09	0.04	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	<0.1	<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	0.06	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_240311	0874_SW017_230311	0874_SW021_240311	0874_SW120_240311	0874_SW127_240311
Sampling date / time				11-Mar-2024 11:22	11-Mar-2024 11:41	11-Mar-2024 12:18	11-Mar-2024 12:31	11-Mar-2024 12:59	
Compound	CAS Number	LOR	Unit	ET2401733-002	ET2401733-004	ET2401733-006	ET2401733-008	ET2401733-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.07	0.48	0.08	0.02	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.07	0.30	0.08	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.07	0.46	0.08	0.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	99.6	101	100	99.6	
13C8-PFOA	----	0.02	%	118	104	106	103	109	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW119_240311	0874_SW117_240311	0874_QC100_240311	0874_SW118_240311	0874_SW115_240311
Sampling date / time					11-Mar-2024 13:48	11-Mar-2024 14:08	11-Mar-2024 14:09	11-Mar-2024 14:26	11-Mar-2024 14:55
Compound	CAS Number	LOR	Unit	ET2401733-011	ET2401733-013	ET2401733-014	ET2401733-017	ET2401733-019	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.95	1.66	1.74	2.03	0.50	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.12	1.74	1.73	2.08	0.50	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	15.0	8.04	8.32	9.64	3.10	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.97	0.52	0.55	0.64	0.20	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	17.0	9.29	10.1	9.03	4.14	
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	1.0	0.5	0.5	0.6	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.66	0.88	0.91	1.12	0.26	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	7.01	4.21	3.93	5.02	1.17	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.52	0.72	0.71	0.93	0.20	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.70	1.37	1.42	1.78	0.44	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW119_240311	0874_SW117_240311	0874_QC100_240311	0874_SW118_240311	0874_SW115_240311
Sampling date / time					11-Mar-2024 13:48	11-Mar-2024 14:08	11-Mar-2024 14:09	11-Mar-2024 14:26	11-Mar-2024 14:55
Compound	CAS Number	LOR	Unit	ET2401733-011	ET2401733-013	ET2401733-014	ET2401733-017	ET2401733-019	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	53.0	28.9	29.9	32.9	10.6	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	32.0	17.3	18.4	18.7	7.24	
Sum of PFAS (WA DER List)	----	0.01	µg/L	48.8	26.7	27.6	30.2	9.91	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	101	96.8	89.6	104	
13C8-PFOA	----	0.02	%	98.9	102	116	104	110	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_240312	0874_SW113_240311	0874_SW114_240311	0874_SW116_240311	0874_QC300_240311
Sampling date / time				12-Mar-2024 06:43	11-Mar-2024 15:25	11-Mar-2024 15:35	11-Mar-2024 15:49	11-Mar-2024 15:58	
Compound	CAS Number	LOR	Unit	ET2401733-021	ET2401733-022	ET2401733-024	ET2401733-026	ET2401733-027	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	4.49	0.01	3.51	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	3.03	0.01	2.29	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	4.16	0.01	3.27	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.5	101	92.2	96.8	103	
13C8-PFOA	----	0.02	%	119	104	111	118	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC301_240313	0874_MW055_240313	0874_MW054_240313	0874_MW005_240313	0874_MW081_240313
Sampling date / time					13-Mar-2024 16:00	13-Mar-2024 15:50	13-Mar-2024 15:40	13-Mar-2024 09:15	13-Mar-2024 14:30
Compound	CAS Number	LOR	Unit	ET2401733-028	ET2401733-029	ET2401733-030	ET2401733-031	ET2401733-032	ET2401733-032
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	2.68	1.60	30.9	34.4	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	3.35	1.58	41.9	58.4	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	22.7	8.20	618	1060	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	1.96	0.74	33.1	132	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	78.2	33.3	448	1390	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.8	0.3	8.2	5.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	1.75	0.66	16.1	16.7	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	7.91	2.78	117	131	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	1.12	0.28	11.4	18.3	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	3.15	0.61	20.2	61.9	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.08	<0.02	0.17	0.49	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.97	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.39	0.06	<0.04	<0.39	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.97	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC301_240313	0874_MW055_240313	0874_MW054_240313	0874_MW005_240313	0874_MW081_240313
Sampling date / time				13-Mar-2024 16:00	13-Mar-2024 15:50	13-Mar-2024 15:40	13-Mar-2024 09:15	13-Mar-2024 14:30	
Compound	CAS Number	LOR	Unit	ET2401733-028	ET2401733-029	ET2401733-030	ET2401733-031	ET2401733-032	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.97	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.97	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.97	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.39	
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	<0.39	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.05	<0.05	<0.05	<0.39	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.39	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.39	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.05	124	50.1	1340	2910	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	101	41.5	1070	2450	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	118	47.7	1270	2720	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.9	102	106	113	118	
13C8-PFOA	----	0.02	%	108	111	105	105	98.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW090_240313	0874_SW207_240315	0874_SW206_240315	0874_SW203_240315	0874_QC102_240315
Sampling date / time					13-Mar-2024 15:20	15-Mar-2024 12:42	15-Mar-2024 12:25	15-Mar-2024 13:47	15-Mar-2024 13:01
Compound	CAS Number	LOR	Unit	ET2401733-033	ET2401733-039	ET2401733-041	ET2401733-043	ET2401733-047	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.15	0.05	0.08	0.02	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.19	0.03	0.05	<0.02	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.46	0.33	0.54	0.14	0.33	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	<0.02	0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.12	0.27	0.57	0.12	0.29	
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	0.13	0.02	0.03	<0.02	0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.63	0.11	0.15	0.05	0.10	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	<0.02	0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.10	0.02	0.03	<0.01	0.02	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW090_240313	0874_SW207_240315	0874_SW206_240315	0874_SW203_240315	0874_QC102_240315
Sampling date / time				13-Mar-2024 15:20	15-Mar-2024 12:42	15-Mar-2024 12:25	15-Mar-2024 13:47	15-Mar-2024 13:01	
Compound	CAS Number	LOR	Unit	ET2401733-033	ET2401733-039	ET2401733-041	ET2401733-043	ET2401733-047	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	7.00	0.83	1.49	0.33	0.84	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.58	0.60	1.11	0.26	0.62	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.63	0.80	1.42	0.33	0.80	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	111	108	96.6	92.2	
13C8-PFOA	----	0.02	%	107	103	103	102	94.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC304_240315	0874_QC501_240318	----	----	----
Sampling date / time				15-Mar-2024 14:10	18-Mar-2024 14:55	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-049	ET2401733-050	-----	-----	-----	
				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	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC304_240315	0874_QC501_240318	----	----	----
Sampling date / time				15-Mar-2024 14:10	18-Mar-2024 14:55	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401733-049	ET2401733-050	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	
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	%	107	108	----	----	----	
13C8-PFOA	----	0.02	%	107	105	----	----	----	



Surrogate Control Limits

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401733	Page	: 1 of 11
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 21-Mar-2024
Site	: QLD_0874	Issue Date	: 28-Mar-2024
Sampler	: [REDACTED]	No. of samples received	: 50
Order number	: 60612487_2.3	No. of samples analysed	: 50

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

- Analysis Holding Time Outliers exist - please see following pages for full details.

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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	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	ET2401733--017	0874_SW118_240311	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Analysis Holding Time Compliance

Matrix: SOIL

Method	Extraction / Preparation			Analysis			
	Container / Client Sample ID(s)	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar							
0874_SD129_240311,	0874_SD017_240311,	----	----	----	26-Mar-2024	25-Mar-2024	1
0874_SD021_240311,	0874_SD120_240311,						
0874_SD127_240311,	0874_SD117_240311,						
0874_QC101_240311,	0874_SD118_240311,						
0874_SD115_240311,	0874_SD113_240311,						
0874_SD114_240311,	0874_SD116_240311						

Outliers : Frequency of Quality Control Samples



Matrix: **WATER**

Quality Control Sample Type	Method	Count		Rate (%)		Quality Control Specification
		QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	31	9.68	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: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	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)								
0874_SD129_240311, 0874_SD021_240311, 0874_SD127_240311, 0874_QC101_240311, 0874_SD115_240311, 0874_SD114_240311,	0874_SD017_240311, 0874_SD120_240311, 0874_SD117_240311, 0874_SD118_240311, 0874_SD113_240311, 0874_SD116_240311	11-Mar-2024	----	----	----	26-Mar-2024	25-Mar-2024	*
HDPE Soil Jar (EA055)								
0874_SD202_240315, 0874_SD207_240315, 0874_SD203_240315, 0874_QC103_240315	0874_SD205_240315, 0874_SD206_240315, 0874_SD204_240315,	15-Mar-2024	----	----	----	26-Mar-2024	29-Mar-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD129_240311, 0874_SD021_240311, 0874_SD127_240311, 0874_QC101_240311, 0874_SD115_240311, 0874_SD114_240311,	0874_SD017_240311, 0874_SD120_240311, 0874_SD117_240311, 0874_SD118_240311, 0874_SD113_240311, 0874_SD116_240311	11-Mar-2024	27-Mar-2024	07-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
HDPE Soil Jar (EP231X)								
0874_SD202_240315, 0874_SD207_240315, 0874_SD203_240315, 0874_QC103_240315	0874_SD205_240315, 0874_SD206_240315, 0874_SD204_240315,	15-Mar-2024	27-Mar-2024	11-Sep-2024	✓	28-Mar-2024	06-May-2024	✓



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	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD129_240311, 0874_SD021_240311, 0874_SD127_240311, 0874_QC101_240311, 0874_SD115_240311, 0874_SD114_240311,	0874_SD017_240311, 0874_SD120_240311, 0874_SD117_240311, 0874_SD118_240311, 0874_SD113_240311, 0874_SD116_240311	11-Mar-2024	27-Mar-2024	07-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
HDPE Soil Jar (EP231X) 0874_SD202_240315, 0874_SD207_240315, 0874_SD203_240315, 0874_QC103_240315	0874_SD205_240315, 0874_SD206_240315, 0874_SD204_240315,	15-Mar-2024	27-Mar-2024	11-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD129_240311, 0874_SD021_240311, 0874_SD127_240311, 0874_QC101_240311, 0874_SD115_240311, 0874_SD114_240311,	0874_SD017_240311, 0874_SD120_240311, 0874_SD117_240311, 0874_SD118_240311, 0874_SD113_240311, 0874_SD116_240311	11-Mar-2024	27-Mar-2024	07-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
HDPE Soil Jar (EP231X) 0874_SD202_240315, 0874_SD207_240315, 0874_SD203_240315, 0874_QC103_240315	0874_SD205_240315, 0874_SD206_240315, 0874_SD204_240315,	15-Mar-2024	27-Mar-2024	11-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD129_240311, 0874_SD021_240311, 0874_SD127_240311, 0874_QC101_240311, 0874_SD115_240311, 0874_SD114_240311,	0874_SD017_240311, 0874_SD120_240311, 0874_SD117_240311, 0874_SD118_240311, 0874_SD113_240311, 0874_SD116_240311	11-Mar-2024	27-Mar-2024	07-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
HDPE Soil Jar (EP231X) 0874_SD202_240315, 0874_SD207_240315, 0874_SD203_240315, 0874_QC103_240315	0874_SD205_240315, 0874_SD206_240315, 0874_SD204_240315,	15-Mar-2024	27-Mar-2024	11-Sep-2024	✓	28-Mar-2024	06-May-2024	✓



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
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) 0874_SD129_240311, 0874_SD021_240311, 0874_SD127_240311, 0874_QC101_240311, 0874_SD115_240311, 0874_SD114_240311, 0874_SD017_240311, 0874_SD120_240311, 0874_SD117_240311, 0874_SD118_240311, 0874_SD113_240311, 0874_SD116_240311	11-Mar-2024	27-Mar-2024	07-Sep-2024	✓	28-Mar-2024	06-May-2024	✓
HDPE Soil Jar (EP231X) 0874_SD202_240315, 0874_SD207_240315, 0874_SD203_240315, 0874_QC103_240315, 0874_SD205_240315, 0874_SD206_240315, 0874_SD204_240315	15-Mar-2024	27-Mar-2024	11-Sep-2024	✓	28-Mar-2024	06-May-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
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_SW129_240311, 0874_SW021_240311, 0874_SW127_240311, 0874_SW117_240311, 0874_SW118_240311, 0874_SW113_240311, 0874_SW116_240311, 0874_SW017_230311, 0874_SW120_240311, 0874_SW119_240311, 0874_QC100_240311, 0874_SW115_240311, 0874_SW114_240311, 0874_QC300_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC303_240312	12-Mar-2024	26-Mar-2024	08-Sep-2024	✓	27-Mar-2024	08-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC301_240313, 0874_MW054_240313, 0874_MW081_240313, 0874_MW055_240313, 0874_MW005_240313, 0874_MW090_240313	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC302_240314	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW202_240315, 0874_SW207_240315, 0874_SW203_240315, 0874_QC102_240315, 0874_SW205_240315, 0874_SW206_240315, 0874_SW204_240315, 0874_QC304_240315	15-Mar-2024	26-Mar-2024	11-Sep-2024	✓	27-Mar-2024	11-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC501_240318	18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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) 0874_SW129_240311, 0874_SW021_240311, 0874_SW127_240311, 0874_SW117_240311, 0874_SW118_240311, 0874_SW113_240311, 0874_SW116_240311,	0874_SW017_230311, 0874_SW120_240311, 0874_SW119_240311, 0874_QC100_240311, 0874_SW115_240311, 0874_SW114_240311, 0874_QC300_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC303_240312		12-Mar-2024	26-Mar-2024	08-Sep-2024	✓	27-Mar-2024	08-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC301_240313, 0874_MW054_240313, 0874_MW081_240313,	0874_MW055_240313, 0874_MW005_240313, 0874_MW090_240313	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC302_240314		14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW202_240315, 0874_SW207_240315, 0874_SW203_240315, 0874_QC102_240315,	0874_SW205_240315, 0874_SW206_240315, 0874_SW204_240315, 0874_QC304_240315	15-Mar-2024	26-Mar-2024	11-Sep-2024	✓	27-Mar-2024	11-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC501_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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) 0874_SW129_240311, 0874_SW021_240311, 0874_SW127_240311, 0874_SW117_240311, 0874_SW118_240311, 0874_SW113_240311, 0874_SW116_240311,	0874_SW017_230311, 0874_SW120_240311, 0874_SW119_240311, 0874_QC100_240311, 0874_SW115_240311, 0874_SW114_240311, 0874_QC300_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✔	27-Mar-2024	07-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC303_240312		12-Mar-2024	26-Mar-2024	08-Sep-2024	✔	27-Mar-2024	08-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC301_240313, 0874_MW054_240313, 0874_MW081_240313,	0874_MW055_240313, 0874_MW005_240313, 0874_MW090_240313	13-Mar-2024	26-Mar-2024	09-Sep-2024	✔	27-Mar-2024	09-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC302_240314		14-Mar-2024	26-Mar-2024	10-Sep-2024	✔	27-Mar-2024	10-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_SW202_240315, 0874_SW207_240315, 0874_SW203_240315, 0874_QC102_240315,	0874_SW205_240315, 0874_SW206_240315, 0874_SW204_240315, 0874_QC304_240315	15-Mar-2024	26-Mar-2024	11-Sep-2024	✔	27-Mar-2024	11-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC501_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✔	27-Mar-2024	14-Sep-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) 0874_SW129_240311, 0874_SW021_240311, 0874_SW127_240311, 0874_SW117_240311, 0874_SW118_240311, 0874_SW113_240311, 0874_SW116_240311,	0874_SW017_230311, 0874_SW120_240311, 0874_SW119_240311, 0874_QC100_240311, 0874_SW115_240311, 0874_SW114_240311, 0874_QC300_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✔	27-Mar-2024	07-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC303_240312		12-Mar-2024	26-Mar-2024	08-Sep-2024	✔	27-Mar-2024	08-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC301_240313, 0874_MW054_240313, 0874_MW081_240313,	0874_MW055_240313, 0874_MW005_240313, 0874_MW090_240313	13-Mar-2024	26-Mar-2024	09-Sep-2024	✔	27-Mar-2024	09-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC302_240314		14-Mar-2024	26-Mar-2024	10-Sep-2024	✔	27-Mar-2024	10-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_SW202_240315, 0874_SW207_240315, 0874_SW203_240315, 0874_QC102_240315,	0874_SW205_240315, 0874_SW206_240315, 0874_SW204_240315, 0874_QC304_240315	15-Mar-2024	26-Mar-2024	11-Sep-2024	✔	27-Mar-2024	11-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC501_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✔	27-Mar-2024	14-Sep-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) 0874_SW129_240311, 0874_SW021_240311, 0874_SW127_240311, 0874_SW117_240311, 0874_SW118_240311, 0874_SW113_240311, 0874_SW116_240311,	0874_SW017_230311, 0874_SW120_240311, 0874_SW119_240311, 0874_QC100_240311, 0874_SW115_240311, 0874_SW114_240311, 0874_QC300_240311	11-Mar-2024	26-Mar-2024	07-Sep-2024	✓	27-Mar-2024	07-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC303_240312		12-Mar-2024	26-Mar-2024	08-Sep-2024	✓	27-Mar-2024	08-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC301_240313, 0874_MW054_240313, 0874_MW081_240313,	0874_MW055_240313, 0874_MW005_240313, 0874_MW090_240313	13-Mar-2024	26-Mar-2024	09-Sep-2024	✓	27-Mar-2024	09-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC302_240314		14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW202_240315, 0874_SW207_240315, 0874_SW203_240315, 0874_QC102_240315,	0874_SW205_240315, 0874_SW206_240315, 0874_SW204_240315, 0874_QC304_240315	15-Mar-2024	26-Mar-2024	11-Sep-2024	✓	27-Mar-2024	11-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC501_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	10.53	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	1	19	5.26	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	31	9.68	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	31	6.45	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	31	6.45	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	31	6.45	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 5.4, 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 5.4, 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.



QUALITY CONTROL REPORT

Work Order	: ET2401733	Page	: 1 of 16
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5423	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
	TOWNSVILLE QLD, AUSTRALIA 4810		
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 21-Mar-2024
Order number	: 60612487_2.3	Date Analysis Commenced	: 26-Mar-2024
C-O-C number	: 64882	Issue Date	: 28-Mar-2024
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 50		
No. of samples analysed	: 50		



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]	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5688315)									
ET2401733-001	0874_SD129_240311	EA055: Moisture Content	----	0.1	%	43.3	44.0	1.7	0% - 20%
ET2401733-023	0874_SD114_240311	EA055: Moisture Content	----	0.1	%	36.6	36.3	1.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5689210)									
ET2401733-001	0874_SD129_240311	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	0.0004	23.7	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2401733-023	0874_SD114_240311	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	0.0026	0.0023	12.2	0% - 50%
		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: 5689210)									
ET2401733-001	0874_SD129_240311	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



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: 5689210) - continued									
ET2401733-001	0874_SD129_240311	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 (PFTTrDA)	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
ET2401733-023	0874_SD114_240311	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 (PFTTrDA)	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: 5689210)									
ET2401733-001	0874_SD129_240311	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
ET2401733-023	0874_SD114_240311	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



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 (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5689210) - continued									
ET2401733-023	0874_SD114_240311	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5689210)									
ET2401733-001	0874_SD129_240311	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
ET2401733-023	0874_SD114_240311	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
EP231P: PFAS Sums (QC Lot: 5689210)									
ET2401733-001	0874_SD129_240311	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0005	0.0004	22.2	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0005	0.0004	22.2	No Limit
ET2401733-023	0874_SD114_240311	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0026	0.0023	12.2	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0026	0.0023	12.2	0% - 50%
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: 5687821)									
ET2401733-006	0874_SW021_240311	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.21	0.21	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.09	0.07	23.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	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



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: 5687821) - continued									
ET2401733-029	0874_MW055_240313	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01 (0.04)*	µg/L	22.7	26.0	13.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (0.38)*	µg/L	78.2	81.3	3.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.68	3.08	14.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02 (0.04)*	µg/L	3.35	3.81	12.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02 (0.04)*	µg/L	1.96	2.18	10.5	0% - 20%
		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: 5687845)									
ET2401733-035	0874_SW202_240315	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.04	0.04	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: 5687821)									
ET2401733-006	0874_SW021_240311	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	0.06	0.06	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
		ET2401733-029	0874_MW055_240313	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	3.15	3.52
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	1.75	1.97	11.5	0% - 20%
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02 (0.04)*	µg/L	7.91	8.44	6.6	0% - 20%
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	1.12	1.21	7.6	0% - 20%
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	0.08	0.09	16.9	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	0.8	0.9	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5687845)									



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: 5687845) - continued									
ET2401733-035	0874_SW202_240315	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 (PFTTrDA)	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: 5687821)									
ET2401733-006	0874_SW021_240311	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
ET2401733-029	0874_MW055_240313	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.39	0.46	16.0	0% - 20%
		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: 5687845)									
ET2401733-035	0874_SW202_240315	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	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: 5687845) - continued									
ET2401733-035	0874_SW202_240315	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: 5687821)									
ET2401733-006	0874_SW021_240311	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
ET2401733-029	0874_MW055_240313	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	0.06	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5687845)									
ET2401733-035	0874_SW202_240315	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: 5687821)									
ET2401733-006	0874_SW021_240311	EP231X: Sum of PFAS	----	0.01	µg/L	0.48	0.48	0.0	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 (%)
EP231P: PFAS Sums (QC Lot: 5687821) - continued									
ET2401733-006	0874_SW021_240311	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.30	0.28	6.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.46	0.45	2.2	0% - 20%
ET2401733-029	0874_MW055_240313	EP231X: Sum of PFAS	----	0.01 (0.04)*	µg/L	124	133	6.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (0.04)*	µg/L	101	107	6.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01 (0.04)*	µg/L	118	126	6.6	0% - 20%
EP231P: PFAS Sums (QC Lot: 5687845)									
ET2401733-035	0874_SW202_240315	EP231X: Sum of PFAS	----	0.01	µg/L	0.08	0.07	13.3	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.07	13.3	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.08	0.07	13.3	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5689210)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00111 mg/kg	99.8	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	105	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00114 mg/kg	102	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	110	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	101	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00121 mg/kg	99.4	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5689210)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	104	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	91.0	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.6	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.6	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.1	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.8	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	99.5	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5689210)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	94.2	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	95.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	84.1	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5689210)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5689210) - continued									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	94.7	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00119 mg/kg	94.1	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	94.2	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00121 mg/kg	86.3	70.0	130	
EP231P: PFAS Sums (QCLot: 5689210)									
EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687821)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	95.3	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	86.8	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	88.7	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	97.0	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	99.4	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687845)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	92.5	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	90.1	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	99.2	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	96.2	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: 5687821)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.3	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	97.6	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.1	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.1	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	97.4	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.9	71.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687821) - continued									
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.5	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	88.3	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	82.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.5	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687845)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.2	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	105	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.7	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	79.5	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	79.9	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.3	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	76.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	107	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5687821)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	90.3	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	94.8	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.2	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	70.0	130	
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	89.9	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5687845)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.0	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	88.7	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	79.2	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	70.5	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	91.5	70.0	130	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5687845) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	82.6	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	85.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687821)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	118	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	0.242 µg/L	82.1	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687845)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.8	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	99.9	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	109	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	76.0	70.0	130
EP231P: PFAS Sums (QCLot: 5687821)								
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: 5687845)								
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	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5689210)							
ET2401733-003	0874_SD017_240311	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00111 mg/kg	94.3	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00118 mg/kg	79.7	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00114 mg/kg	94.2	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	94.3	70.0	132



Sub-Matrix: **SOIL**

				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: 5689210) - continued							
ET2401733-003	0874_SD017_240311	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	84.3	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00121 mg/kg	87.1	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5689210)							
ET2401733-003	0874_SD017_240311	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	84.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	86.1	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	93.1	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	97.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	90.6	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	97.0	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	88.2	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	83.3	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	79.4	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	87.1	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	85.1	69.0	133		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5689210)							
ET2401733-003	0874_SD017_240311	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	87.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	94.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	97.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	75.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	88.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	91.0	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	78.2	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5689210)							
ET2401733-003	0874_SD017_240311	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	95.7	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00119 mg/kg	105	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	87.9	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00121 mg/kg	70.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687821)							
ET2401733-017	0874_SW118_240311	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	# Not Determined	72.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report					
				Spike	Spike Recovery(%)	Acceptable Limits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687821) - continued									
ET2401733-017	0874_SW118_240311	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	0.228 µg/L	# Not Determined	68.0	131		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	119	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	107	53.0	142		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5687845)									
ET2401733-047	0874_QC102_240315	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	92.9	72.0	130		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.0	71.0	127		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	84.8	68.0	131		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	97.1	69.0	134		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	115	65.0	140		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	92.7	53.0	142		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687821)									
ET2401733-017	0874_SW118_240311	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.2	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	91.3	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	92.6	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	89.0	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	88.8	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	77.5	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	77.6	71.0	132		
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687845)							
		ET2401733-047	0874_QC102_240315	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	86.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.25 µg/L	98.4	72.0	129		
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.25 µg/L	91.7	72.0	129		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.25 µg/L	91.6	72.0	130		
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.25 µg/L	104	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	96.0	71.0	129		



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5687845) - continued							
ET2401733-047	0874_QC102_240315	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.7	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	85.5	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	73.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	78.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5687821)							
ET2401733-017	0874_SW118_240311	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	86.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	94.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	87.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	97.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	88.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	89.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5687845)							
ET2401733-047	0874_QC102_240315	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	94.5	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.9	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	74.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	84.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	92.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	80.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687821)							
ET2401733-017	0874_SW118_240311	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	102	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	114	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	93.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	74.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687845)							
ET2401733-047	0874_QC102_240315	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	96.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	101	64.0	140

Page : 16 of 16
 Work Order : ET2401733
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_24



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5687845) - continued							
ET2401733-047	0874_QC102_240315	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	91.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	84.4	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2401733

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5423 TOWNSVILLE QLD, AUSTRALIA 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 4
Order number	: 60612487_2.3	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 64882	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 21-Mar-2024 09:58	Issue Date	: 26-Mar-2024
Client Requested Due Date	: 28-Mar-2024	Scheduled Reporting Date	: 28-Mar-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 8.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 50 / 50

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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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)
ET2401733-001	11-Mar-2024 11:21	0874_SD129_240311	✓	✓
ET2401733-003	11-Mar-2024 11:41	0874_SD017_240311	✓	✓
ET2401733-005	11-Mar-2024 12:17	0874_SD021_240311	✓	✓
ET2401733-007	11-Mar-2024 12:30	0874_SD120_240311	✓	✓
ET2401733-009	11-Mar-2024 12:58	0874_SD127_240311	✓	✓
ET2401733-012	11-Mar-2024 14:06	0874_SD117_240311	✓	✓
ET2401733-015	11-Mar-2024 14:10	0874_QC101_240311	✓	✓
ET2401733-016	11-Mar-2024 14:25	0874_SD118_240311	✓	✓
ET2401733-018	11-Mar-2024 14:55	0874_SD115_240311	✓	✓
ET2401733-020	11-Mar-2024 15:24	0874_SD113_240311	✓	✓
ET2401733-023	11-Mar-2024 15:34	0874_SD114_240311	✓	✓
ET2401733-025	11-Mar-2024 15:48	0874_SD116_240311	✓	✓
ET2401733-036	15-Mar-2024 11:24	0874_SD202_240315	✓	✓
ET2401733-038	15-Mar-2024 11:51	0874_SD205_240315	✓	✓
ET2401733-040	15-Mar-2024 11:54	0874_SD207_240315	✓	✓
ET2401733-042	15-Mar-2024 12:26	0874_SD206_240315	✓	✓
ET2401733-044	15-Mar-2024 13:47	0874_SD203_240315	✓	✓
ET2401733-046	15-Mar-2024 13:25	0874_SD204_240315	✓	✓
ET2401733-048	15-Mar-2024 13:01	0874_QC103_240315	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2401733-002	11-Mar-2024 11:22	0874_SW129_240311	✓
ET2401733-004	11-Mar-2024 11:41	0874_SW017_230311	✓
ET2401733-006	11-Mar-2024 12:18	0874_SW021_240311	✓
ET2401733-008	11-Mar-2024 12:31	0874_SW120_240311	✓



			WATER - EP231X PFAS - Full Suite (28 analytes)
ET2401733-010	11-Mar-2024 12:59	0874_SW127_240311	✓
ET2401733-011	11-Mar-2024 13:48	0874_SW119_240311	✓
ET2401733-013	11-Mar-2024 14:08	0874_SW117_240311	✓
ET2401733-014	11-Mar-2024 14:09	0874_QC100_240311	✓
ET2401733-017	11-Mar-2024 14:26	0874_SW118_240311	✓
ET2401733-019	11-Mar-2024 14:55	0874_SW115_240311	✓
ET2401733-021	12-Mar-2024 06:43	0874_QC303_240312	✓
ET2401733-022	11-Mar-2024 15:25	0874_SW113_240311	✓
ET2401733-024	11-Mar-2024 15:35	0874_SW114_240311	✓
ET2401733-026	11-Mar-2024 15:49	0874_SW116_240311	✓
ET2401733-027	11-Mar-2024 15:58	0874_QC300_240311	✓
ET2401733-028	13-Mar-2024 16:00	0874_QC301_240313	✓
ET2401733-029	13-Mar-2024 15:50	0874_MW055_240313	✓
ET2401733-030	13-Mar-2024 15:40	0874_MW054_240313	✓
ET2401733-031	13-Mar-2024 09:15	0874_MW005_240313	✓
ET2401733-032	13-Mar-2024 14:30	0874_MW081_240313	✓
ET2401733-033	13-Mar-2024 15:20	0874_MW090_240313	✓
ET2401733-034	14-Mar-2024 15:35	0874_QC302_240314	✓
ET2401733-035	15-Mar-2024 11:21	0874_SW202_240315	✓
ET2401733-037	15-Mar-2024 11:50	0874_SW205_240315	✓
ET2401733-039	15-Mar-2024 12:42	0874_SW207_240315	✓
ET2401733-041	15-Mar-2024 12:25	0874_SW206_240315	✓
ET2401733-043	15-Mar-2024 13:47	0874_SW203_240315	✓
ET2401733-045	15-Mar-2024 13:24	0874_SW204_240315	✓
ET2401733-047	15-Mar-2024 13:01	0874_QC102_240315	✓
ET2401733-049	15-Mar-2024 14:10	0874_QC304_240315	✓
ET2401733-050	18-Mar-2024 14:55	0874_QC501_240318	✓

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)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)

Email

[REDACTED]

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(SOIL) EP231B: Perfluoroalkyl Carboxylic Acids

(SOIL) EP231A: Perfluoroalkyl Sulfonic Acids

(SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(SOIL) EP231C: Perfluoroalkyl Sulfonamides

(SOIL) EP231P: PFAS Sums

(SOIL) EA055: Moisture Content (Dried @ 105-110°C)

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums



CERTIFICATE OF ANALYSIS

Work Order : **ET2401734**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 5423
TOWNSVILLE QLD, AUSTRALIA 4810
Telephone : ----
Project : QLD_0874_PFSOMP_24
Order number : 60612487_2.3
C-O-C number : 64883
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 15
No. of samples analysed : 15

Page : 1 of 9
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 21-Mar-2024 09:58
Date Analysis Commenced : 26-Mar-2024
Issue Date : 28-Mar-2024 17:02



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

Melbourne Organics, Springvale, VIC



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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW135_240314	0874_MW002_240314	0874_MW004_240314	0874_MW241_240314	0874_MW056_230314
Sampling date / time				14-Mar-2024 11:45	14-Mar-2024 11:56	14-Mar-2024 12:38	14-Mar-2024 12:55	14-Mar-2024 13:18	
Compound	CAS Number	LOR	Unit	ET2401734-001	ET2401734-002	ET2401734-003	ET2401734-004	ET2401734-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.39	0.97	<0.02	0.44	0.85	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.30	0.78	<0.02	0.42	0.72	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.10	3.39	<0.01	2.99	2.60	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.10	<0.02	0.11	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	1.23	0.03	1.26	0.06	
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	0.29	<0.02	0.08	0.14	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.20	1.48	<0.02	0.34	0.56	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.10	<0.02	0.03	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.12	<0.01	0.06	0.02	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW135_240314	0874_MW002_240314	0874_MW004_240314	0874_MW241_240314	0874_MW056_230314
Sampling date / time				14-Mar-2024 11:45	14-Mar-2024 11:56	14-Mar-2024 12:38	14-Mar-2024 12:55	14-Mar-2024 13:18	
Compound	CAS Number	LOR	Unit	ET2401734-001	ET2401734-002	ET2401734-003	ET2401734-004	ET2401734-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	2.08	8.56	0.03	5.83	5.08	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.15	4.62	0.03	4.25	2.66	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.78	7.68	0.03	5.30	4.36	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	108	93.5	108	99.8	
13C8-PFOA	----	0.02	%	108	106	111	103	115	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_240314	0874_MW046_240314	0874_MW114_240314	0874_QC370_240314	0874_MW118_240315
Sampling date / time				14-Mar-2024 14:27	14-Mar-2024 15:39	14-Mar-2024 15:59	14-Mar-2024 17:40	15-Mar-2024 09:09	
Compound	CAS Number	LOR	Unit	ET2401734-006	ET2401734-007	ET2401734-008	ET2401734-009	ET2401734-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	12.8	3.22	2.31	<0.02	0.17	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	18.9	6.48	1.95	<0.02	0.06	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	193	92.8	8.50	<0.01	0.21	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	13.9	7.10	0.57	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	194	111	13.3	<0.01	0.39	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.04	<0.04	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	2.1	0.5	0.5	<0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	5.90	2.42	1.02	<0.02	0.12	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	30.6	21.3	4.60	<0.02	0.19	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	3.97	1.45	0.46	<0.02	0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	9.51	4.69	0.58	<0.01	0.03	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.11	<0.04	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.07	<0.04	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_240314	0874_MW046_240314	0874_MW114_240314	0874_QC370_240314	0874_MW118_240315
Sampling date / time				14-Mar-2024 14:27	14-Mar-2024 15:39	14-Mar-2024 15:59	14-Mar-2024 17:40	15-Mar-2024 09:09	
Compound	CAS Number	LOR	Unit	ET2401734-006	ET2401734-007	ET2401734-008	ET2401734-009	ET2401734-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<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	0.30	<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	485	251	33.8	<0.01	1.39	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	387	204	21.8	<0.01	0.60	
Sum of PFAS (WA DER List)	----	0.01	µg/L	452	237	31.3	<0.01	1.33	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	93.3	100	111	92.6	
13C8-PFOA	----	0.02	%	103	102	102	111	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW142_240315	0874_MW251_240315	0874_MW242_240315	0874_QC371_240315	0874_QC502_240318
Sampling date / time				15-Mar-2024 09:59	15-Mar-2024 10:47	15-Mar-2024 11:40	15-Mar-2024 13:51	18-Mar-2024 14:56	
Compound	CAS Number	LOR	Unit	ET2401734-011	ET2401734-012	ET2401734-013	ET2401734-014	ET2401734-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	1.19	0.06	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.95	0.03	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	5.04	0.26	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.31	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	2.44	0.09	<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	0.29	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	1.66	0.06	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.14	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.20	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW142_240315	0874_MW251_240315	0874_MW242_240315	0874_QC371_240315	0874_QC502_240318
Sampling date / time				15-Mar-2024 09:59	15-Mar-2024 10:47	15-Mar-2024 11:40	15-Mar-2024 13:51	18-Mar-2024 14:56	
Compound	CAS Number	LOR	Unit	ET2401734-011	ET2401734-012	ET2401734-013	ET2401734-014	ET2401734-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.03	12.3	0.50	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	7.48	0.35	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	11.1	0.47	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	92.0	103	98.5	110	112	
13C8-PFOA	----	0.02	%	105	103	101	110	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

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401734	Page	: 1 of 6
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 21-Mar-2024
Site	: QLD_0874	Issue Date	: 28-Mar-2024
Sampler	: [REDACTED]	No. of samples received	: 15
Order number	: 60612487_2.3	No. of samples analysed	: 15

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	ET2401734--005	0874_MW056_230314	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	ET2401734--005	0874_MW056_230314	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	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) 0874_MW135_240314, 0874_MW004_240314, 0874_MW056_230314, 0874_MW046_240314, 0874_QC370_240314	0874_MW002_240314, 0874_MW241_240314, 0874_MW016_240314, 0874_MW114_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW118_240315, 0874_MW251_240315, 0874_QC371_240315	0874_MW142_240315, 0874_MW242_240315,	15-Mar-2024	26-Mar-2024	11-Sep-2024	✓	27-Mar-2024	11-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC502_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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) 0874_MW135_240314, 0874_MW004_240314, 0874_MW056_230314, 0874_MW046_240314, 0874_QC370_240314	0874_MW002_240314, 0874_MW241_240314, 0874_MW016_240314, 0874_MW114_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✔	27-Mar-2024	10-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_MW118_240315, 0874_MW251_240315, 0874_QC371_240315	0874_MW142_240315, 0874_MW242_240315,	15-Mar-2024	26-Mar-2024	11-Sep-2024	✔	27-Mar-2024	11-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC502_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✔	27-Mar-2024	14-Sep-2024	✔
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW135_240314, 0874_MW004_240314, 0874_MW056_230314, 0874_MW046_240314, 0874_QC370_240314	0874_MW002_240314, 0874_MW241_240314, 0874_MW016_240314, 0874_MW114_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✔	27-Mar-2024	10-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_MW118_240315, 0874_MW251_240315, 0874_QC371_240315	0874_MW142_240315, 0874_MW242_240315,	15-Mar-2024	26-Mar-2024	11-Sep-2024	✔	27-Mar-2024	11-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC502_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✔	27-Mar-2024	14-Sep-2024	✔
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW135_240314, 0874_MW004_240314, 0874_MW056_230314, 0874_MW046_240314, 0874_QC370_240314	0874_MW002_240314, 0874_MW241_240314, 0874_MW016_240314, 0874_MW114_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✔	27-Mar-2024	10-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_MW118_240315, 0874_MW251_240315, 0874_QC371_240315	0874_MW142_240315, 0874_MW242_240315,	15-Mar-2024	26-Mar-2024	11-Sep-2024	✔	27-Mar-2024	11-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC502_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✔	27-Mar-2024	14-Sep-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) 0874_MW135_240314, 0874_MW004_240314, 0874_MW056_230314, 0874_MW046_240314, 0874_QC370_240314	0874_MW002_240314, 0874_MW241_240314, 0874_MW016_240314, 0874_MW114_240314,	14-Mar-2024	26-Mar-2024	10-Sep-2024	✓	27-Mar-2024	10-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW118_240315, 0874_MW251_240315, 0874_QC371_240315	0874_MW142_240315, 0874_MW242_240315,	15-Mar-2024	26-Mar-2024	11-Sep-2024	✓	27-Mar-2024	11-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC502_240318		18-Mar-2024	26-Mar-2024	14-Sep-2024	✓	27-Mar-2024	14-Sep-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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	10.53	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	1	19	5.26	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.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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 5.4, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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.



QUALITY CONTROL REPORT

Work Order	: ET2401734	Page	: 1 of 7
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5423 TOWNSVILLE QLD, AUSTRALIA 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 21-Mar-2024
Order number	: 60612487_2.3	Date Analysis Commenced	: 26-Mar-2024
C-O-C number	: 64883	Issue Date	: 28-Mar-2024
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 15		
No. of samples analysed	: 15		



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	Melbourne Organics, Springvale, VIC



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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5688202)									
ET2401734-001	0874_MW135_240314	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.10	1.07	3.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.39	0.39	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.30	0.30	0.0	0% - 50%
		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
ET2401734-008	0874_MW114_240314	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	8.50	8.66	1.8	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (0.04)*	µg/L	13.3	12.6	5.3	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.31	2.22	3.8	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.95	2.09	7.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.57	0.58	0.0	0% - 20%
		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: 5688202)									
ET2401734-001	0874_MW135_240314	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	0.04	0.05	22.4	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.20	0.20	0.0	0% - 50%
		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



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: 5688202) - continued									
ET2401734-001	0874_MW135_240314	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
ET2401734-008	0874_MW114_240314	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.58	0.57	1.9	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.02	0.94	8.8	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.60	4.25	7.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.46	0.41	9.7	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	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.5	0.4	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5688202)									
ET2401734-001	0874_MW135_240314	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
ET2401734-008	0874_MW114_240314	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



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: 5688202) - continued									
ET2401734-008	0874_MW114_240314	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: 5688202)									
ET2401734-001	0874_MW135_240314	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
ET2401734-008	0874_MW114_240314	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: 5688202)									
ET2401734-001	0874_MW135_240314	EP231X: Sum of PFAS	----	0.01	µg/L	2.08	2.06	1.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.15	1.12	2.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.78	1.76	1.1	0% - 20%
ET2401734-008	0874_MW114_240314	EP231X: Sum of PFAS	----	0.01 (0.04)*	µg/L	33.8	32.7	3.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (0.04)*	µg/L	21.8	21.3	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01 (0.04)*	µg/L	31.3	30.0	4.0	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5688202)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	98.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	84.1	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	83.0	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.9	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	89.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5688202)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	87.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	97.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	93.9	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	96.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	85.9	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	78.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.3	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	82.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	94.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5688202)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	113	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	91.2	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	82.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	98.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.6	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5688202)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5688202) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	93.2	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 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	121	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	77.0	70.0	130
EP231P: PFAS Sums (QCLot: 5688202)								
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	Spike Recovery (%)	Acceptable Limits (%)	
				MS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5688202)							
ET2401734-005	0874_MW056_230314	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	74.2	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	95.3	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	89.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5688202)							
ET2401734-005	0874_MW056_230314	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	74.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	88.3	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.6	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	93.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	96.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	79.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	88.1	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	79.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	74.7	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: 5688202)							
ET2401734-005	0874_MW056_230314	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	89.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	78.0	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	76.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	92.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	91.3	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	86.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5688202)							
ET2401734-005	0874_MW056_230314	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	90.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	104	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	96.5	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ET2401734**

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5423 TOWNSVILLE QLD, AUSTRALIA 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 3
Order number	: 60612487_2.3	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 64883	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 21-Mar-2024 09:58	Issue Date	: 23-Mar-2024
Client Requested Due Date	: 28-Mar-2024	Scheduled Reporting Date	: 28-Mar-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 8.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 15 / 15

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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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)
ET2401734-001	14-Mar-2024 11:45	0874_MW135_240314	✓
ET2401734-002	14-Mar-2024 11:56	0874_MW002_240314	✓
ET2401734-003	14-Mar-2024 12:38	0874_MW004_240314	✓
ET2401734-004	14-Mar-2024 12:55	0874_MW241_240314	✓
ET2401734-005	14-Mar-2024 13:18	0874_MW056_230314	✓
ET2401734-006	14-Mar-2024 14:27	0874_MW016_240314	✓
ET2401734-007	14-Mar-2024 15:39	0874_MW046_240314	✓
ET2401734-008	14-Mar-2024 15:59	0874_MW114_240314	✓
ET2401734-009	14-Mar-2024 17:40	0874_QC370_240314	✓
ET2401734-010	15-Mar-2024 09:09	0874_MW118_240315	✓
ET2401734-011	15-Mar-2024 09:59	0874_MW142_240315	✓
ET2401734-012	15-Mar-2024 10:47	0874_MW251_240315	✓
ET2401734-013	15-Mar-2024 11:40	0874_MW242_240315	✓
ET2401734-014	15-Mar-2024 13:51	0874_QC371_240315	✓
ET2401734-015	18-Mar-2024 14:56	0874_QC502_240318	✓

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



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



DERP reports

- EDI Format - ESDAT (ESDAT)

Email



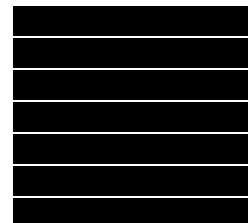
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums



CERTIFICATE OF ANALYSIS

Work Order : **ET2401785**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : ALLUVIUM PO BOX 1581
TOWNSVILLE QLD, AUSTRALIA 4810
Telephone : ----
Project : QLD_0874_PFSOMP_24
Order number : 60612487_2.3
C-O-C number : 65220
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 46
No. of samples analysed : 45

Page : 1 of 23
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 26-Mar-2024 09:45
Date Analysis Commenced : 03-Apr-2024
Issue Date : 05-Apr-2024 17:56



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 - Inorganics
Senior Organic Chemist

Melbourne Inorganics, Springvale, VIC
Melbourne Organics, Springvale, VIC



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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Poor matrix spike recovery for sample ET2401785-006, 021, 036 due to sample matrix interference.
- EP231X: LOR for particular sample ET2401785-022 has been raised due to the high moisture content.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- Sample # 22 analysed and reported "as received" as per Peter.
- 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, PFTTrDA 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.
- 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, PFTTrDA 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 or as per USEPA 1633 limits where LISTED. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD210_240319	0874_SD111_240319	0874_SD110_240319	0874_QC105_240319	0874_SD108_240319
Sampling date / time				19-Mar-2024 23:51	19-Mar-2024 12:53	19-Mar-2024 13:56	19-Mar-2024 16:23	19-Mar-2024 16:23	
Compound	CAS Number	LOR	Unit	ET2401785-020	ET2401785-021	ET2401785-022	ET2401785-023	ET2401785-024	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	35.4	37.5	70.3	25.2	23.8	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0003	0.0016	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.0006	0.0020	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0103	0.0212	0.0003	0.0004	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0008	0.0015	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0006	0.0330	0.0946	0.0048	0.0046	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.002	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0003	0.0006	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0019	0.0044	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0002	0.0006	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0005	0.0012	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD210_240319	0874_SD111_240319	0874_SD110_240319	0874_QC105_240319	0874_SD108_240319
Sampling date / time					19-Mar-2024 23:51	19-Mar-2024 12:53	19-Mar-2024 13:56	19-Mar-2024 16:23	19-Mar-2024 16:23
Compound	CAS Number	LOR	Unit	ET2401785-020	ET2401785-021	ET2401785-022	ET2401785-023	ET2401785-024	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<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	<0.0012	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0006	0.0479	0.128	0.0051	0.0050	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0006	0.0433	0.116	0.0051	0.0050	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0006	0.0465	0.124	0.0051	0.0050	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	102	93.0	102	98.2	102	
13C8-PFOA	----	0.0002	%	94.8	89.2	82.5	96.5	94.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0874_SD201_240319	----	----	----	----
Sampling date / time			19-Mar-2024 10:24	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401785-025	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	22.9	----	----	----	----
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	<0.0002	----	----	----	----
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	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD201_240319	----	----	----	----
Sampling date / time				19-Mar-2024 10:24	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2401785-025	-----	-----	-----	-----	-----
				Result	---	---	---	---	---
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----	----
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	<0.0002	----	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	105	----	----	----	----	----
13C8-PFOA	----	0.0002	%	92.2	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW236_240318	0874_MW258_240318	0874_MW257_240318	0874_MW259_240318	0874_MW260_240318
Sampling date / time					18-Mar-2024 09:38	18-Mar-2024 10:05	18-Mar-2024 10:20	18-Mar-2024 10:35	18-Mar-2024 10:48
Compound	CAS Number	LOR	Unit	ET2401785-001	ET2401785-002	ET2401785-003	ET2401785-004	ET2401785-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.05	0.16	0.13		<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.05	0.13	0.10		<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.05	0.16	0.13		<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.9	90.9	89.7	90.1		91.2
13C8-PFOA	----	0.02	%	91.1	92.3	95.3	93.9		90.3



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW270_240318	0874_MW256_230418	0874_MW254_240318	0874_MW262_240318	0874_MW136_240318
Sampling date / time				18-Mar-2024 11:13	18-Mar-2024 11:53	18-Mar-2024 12:38	18-Mar-2024 12:50	18-Mar-2024 14:34	
Compound	CAS Number	LOR	Unit	ET2401785-006	ET2401785-007	ET2401785-008	ET2401785-009	ET2401785-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.07	<0.01	0.08	0.46	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.06	<0.01	0.04	0.39	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.07	<0.01	0.08	0.46	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.0	96.7	90.5	89.5	95.9	
13C8-PFOA	----	0.02	%	90.5	94.1	97.6	93.7	94.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC305_240318	0874_SW201_240319	0874_SW210_240319	0874_SW111_240319	0874_SW110_240319
Sampling date / time					18-Mar-2024 16:44	19-Mar-2024 10:00	19-Mar-2024 10:45	19-Mar-2024 13:30	19-Mar-2024 13:52
Compound	CAS Number	LOR	Unit	ET2401785-011	ET2401785-012	ET2401785-013	ET2401785-014	ET2401785-015	
				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	0.26	0.31	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.25	0.33	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	<0.01	1.91	2.50	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.08	0.13	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	1.82	2.84	
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	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.14	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.60	0.72	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.06	0.08	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.10	0.13	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC305_240318	0874_SW201_240319	0874_SW210_240319	0874_SW111_240319	0874_SW110_240319
Sampling date / time				18-Mar-2024 16:44	19-Mar-2024 10:00	19-Mar-2024 10:45	19-Mar-2024 13:30	19-Mar-2024 13:52	
Compound	CAS Number	LOR	Unit	ET2401785-011	ET2401785-012	ET2401785-013	ET2401785-014	ET2401785-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	5.22	7.19	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	3.73	5.34	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	4.89	6.73	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.9	96.6	92.8	97.9	92.6	
13C8-PFOA	----	0.02	%	96.5	93.6	95.0	93.8	93.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC104_240319	0874_MW253_240319	0874_MW205_240319	0874_MW301_240319	0874_SW108_240319
Sampling date / time				19-Mar-2024 11:49	19-Mar-2024 11:51	19-Mar-2024 13:41	19-Mar-2024 13:54	19-Mar-2024 16:27	
Compound	CAS Number	LOR	Unit	ET2401785-016	ET2401785-017	ET2401785-018	ET2401785-019	ET2401785-026	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.04	0.04	2.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.01	0.04	0.04	1.51	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.01	0.04	0.04	2.03	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.2	95.8	86.2	92.3	86.8	
13C8-PFOA	----	0.02	%	99.8	95.5	86.5	94.1	92.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC106_240319	0874_QC306_240319	0874_QC307_240319	0874_MW140_240320	0874_MW250_240320
Sampling date / time					19-Mar-2024 16:27	19-Mar-2024 16:28	19-Mar-2024 16:29	20-Mar-2024 09:12	20-Mar-2024 09:41
Compound	CAS Number	LOR	Unit	ET2401785-027	ET2401785-028	ET2401785-029	ET2401785-030	ET2401785-031	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.33	<0.01	<0.01	0.07	2.64	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.63	<0.01	<0.01	0.05	1.87	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.15	<0.01	<0.01	0.07	2.41	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.3	97.6	95.7	86.9	95.0	
13C8-PFOA	----	0.02	%	94.7	93.7	93.4	93.7	96.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW235_240320	0874_MW255_240320	0874_QC107_240320	0874_MW234_240320	0874_MW214_240320
Sampling date / time				20-Mar-2024 12:54	20-Mar-2024 13:10	20-Mar-2024 13:11	20-Mar-2024 13:34	20-Mar-2024 15:54	
Compound	CAS Number	LOR	Unit	ET2401785-032	ET2401785-033	ET2401785-034	ET2401785-035	ET2401785-036	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.88	0.01	0.01	0.36	0.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.23	0.01	0.01	0.36	0.03	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.88	0.01	0.01	0.36	0.03	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	86.2	92.7	93.8	89.8	92.8	
13C8-PFOA	----	0.02	%	93.3	97.0	96.5	98.0	94.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC308_240320	0874_MW226_240321	0874_QC108_240321	0874_MW228_240321	0874_MW229_240321
Sampling date / time					20-Mar-2024 16:02	21-Mar-2024 13:49	21-Mar-2024 13:50	21-Mar-2024 14:09	21-Mar-2024 14:35
Compound	CAS Number	LOR	Unit	ET2401785-037	ET2401785-038	ET2401785-039	ET2401785-040	ET2401785-041	
				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	0.03	<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	0.03	<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	0.07	0.07	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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC308_240320	0874_MW226_240321	0874_QC108_240321	0874_MW228_240321	0874_MW229_240321
Sampling date / time				20-Mar-2024 16:02	21-Mar-2024 13:49	21-Mar-2024 13:50	21-Mar-2024 14:09	21-Mar-2024 14:35	
Compound	CAS Number	LOR	Unit	ET2401785-037	ET2401785-038	ET2401785-039	ET2401785-040	ET2401785-041	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.08	0.08	0.07	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.08	0.08	0.04	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.08	0.08	0.07	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.4	94.7	89.2	92.3	89.1	
13C8-PFOA	----	0.02	%	94.6	97.8	92.6	95.0	94.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW222_240321	0874_MW300_240321	0874_QC309_240321	0874_QC506_240322	----
Sampling date / time					21-Mar-2024 15:30	21-Mar-2024 16:14	21-Mar-2024 17:14	22-Mar-2024 10:05	----
Compound	CAS Number	LOR	Unit	ET2401785-043	ET2401785-044	ET2401785-045	ET2401785-046	-----	
				Result	Result	Result	Result	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.10	0.10	<0.02	<0.02	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.02	<0.02	<0.02	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.22	0.16	<0.01	<0.01	----	
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	0.23	0.22	<0.01	<0.01	----	
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	<0.1	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<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	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.02	<0.01	<0.01	----	
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	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW222_240321	0874_MW300_240321	0874_QC309_240321	0874_QC506_240322	----
Sampling date / time				21-Mar-2024 15:30	21-Mar-2024 16:14	21-Mar-2024 17:14	22-Mar-2024 10:05	----	----
Compound	CAS Number	LOR	Unit	ET2401785-043	ET2401785-044	ET2401785-045	ET2401785-046	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
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	<0.05	<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	----	----
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	0.59	0.54	<0.01	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.45	0.38	<0.01	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.55	0.52	<0.01	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	92.2	93.2	98.9	89.5	----	----
13C8-PFOA	----	0.02	%	94.9	96.2	96.9	92.8	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401785	Page	: 1 of 10
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 26-Mar-2024
Site	: QLD_0874	Issue Date	: 05-Apr-2024
Sampler	: [REDACTED]	No. of samples received	: 46
Order number	: 60612487_2.3	No. of samples analysed	: 45

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

- Analysis Holding Time Outliers exist - please see following pages for full details.

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: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401785--021	0874_SD111_240319	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	ET2401785--021	0874_SD111_240319	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2401785--021	0874_SD111_240319	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	47.5 %	70.0-130%	Recovery less than lower data quality objective

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401785--006	0874_MW270_240318	Perfluorobutanoic acid (PFBA)	375-22-4	52.1 %	73.0-129%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401785--036	0874_MW214_240320	Perfluorobutanoic acid (PFBA)	375-22-4	65.8 %	73.0-129%	Recovery less than lower data quality objective

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method	Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar							
0874_SD210_240319,	0874_SD111_240319,	----	----	----	03-Apr-2024	02-Apr-2024	1
0874_SD110_240319,	0874_QC105_240319,						
0874_SD108_240319,	0874_SD201_240319						

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	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							



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) 0874_SD210_240319, 0874_SD110_240319, 0874_SD108_240319,	0874_SD111_240319, 0874_QC105_240319, 0874_SD201_240319	19-Mar-2024	----	----	----	03-Apr-2024	02-Apr-2024	✖
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD210_240319, 0874_SD110_240319, 0874_SD108_240319,	0874_SD111_240319, 0874_QC105_240319, 0874_SD201_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✔	04-Apr-2024	14-May-2024	✔
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD210_240319, 0874_SD110_240319, 0874_SD108_240319,	0874_SD111_240319, 0874_QC105_240319, 0874_SD201_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✔	04-Apr-2024	14-May-2024	✔
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD210_240319, 0874_SD110_240319, 0874_SD108_240319,	0874_SD111_240319, 0874_QC105_240319, 0874_SD201_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✔	04-Apr-2024	14-May-2024	✔
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD210_240319, 0874_SD110_240319, 0874_SD108_240319,	0874_SD111_240319, 0874_QC105_240319, 0874_SD201_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✔	04-Apr-2024	14-May-2024	✔
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD210_240319, 0874_SD110_240319, 0874_SD108_240319,	0874_SD111_240319, 0874_QC105_240319, 0874_SD201_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✔	04-Apr-2024	14-May-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



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) 0874_MW236_240318, 0874_MW257_240318, 0874_MW260_240318, 0874_MW256_230418, 0874_MW262_240318, 0874_QC305_240318	0874_MW258_240318, 0874_MW259_240318, 0874_MW270_240318, 0874_MW254_240318, 0874_MW136_240318,	18-Mar-2024	04-Apr-2024	14-Sep-2024	✓	04-Apr-2024	14-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW201_240319, 0874_SW111_240319, 0874_QC104_240319, 0874_MW205_240319, 0874_SW108_240319, 0874_QC306_240319,	0874_SW210_240319, 0874_SW110_240319, 0874_MW253_240319, 0874_MW301_240319, 0874_QC106_240319, 0874_QC307_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW140_240320, 0874_MW235_240320, 0874_QC107_240320, 0874_MW214_240320,	0874_MW250_240320, 0874_MW255_240320, 0874_MW234_240320, 0874_QC308_240320	20-Mar-2024	04-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW226_240321, 0874_MW228_240321, 0874_MW222_240321, 0874_QC309_240321	0874_QC108_240321, 0874_MW229_240321, 0874_MW300_240321,	21-Mar-2024	04-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC506_240322		22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW236_240318, 0874_MW257_240318, 0874_MW260_240318, 0874_MW256_230418, 0874_MW262_240318, 0874_QC305_240318	0874_MW258_240318, 0874_MW259_240318, 0874_MW270_240318, 0874_MW254_240318, 0874_MW136_240318,	18-Mar-2024	04-Apr-2024	14-Sep-2024	✓	04-Apr-2024	14-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW201_240319, 0874_SW111_240319, 0874_QC104_240319, 0874_MW205_240319, 0874_SW108_240319, 0874_QC306_240319,	0874_SW210_240319, 0874_SW110_240319, 0874_MW253_240319, 0874_MW301_240319, 0874_QC106_240319, 0874_QC307_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW140_240320, 0874_MW235_240320, 0874_QC107_240320, 0874_MW214_240320,	0874_MW250_240320, 0874_MW255_240320, 0874_MW234_240320, 0874_QC308_240320	20-Mar-2024	04-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW226_240321, 0874_MW228_240321, 0874_MW222_240321, 0874_QC309_240321	0874_QC108_240321, 0874_MW229_240321, 0874_MW300_240321,	21-Mar-2024	04-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC506_240322		22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW236_240318, 0874_MW257_240318, 0874_MW260_240318, 0874_MW256_230418, 0874_MW262_240318, 0874_QC305_240318	0874_MW258_240318, 0874_MW259_240318, 0874_MW270_240318, 0874_MW254_240318, 0874_MW136_240318,	18-Mar-2024	04-Apr-2024	14-Sep-2024	✓	04-Apr-2024	14-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW201_240319, 0874_SW111_240319, 0874_QC104_240319, 0874_MW205_240319, 0874_SW108_240319, 0874_QC306_240319,	0874_SW210_240319, 0874_SW110_240319, 0874_MW253_240319, 0874_MW301_240319, 0874_QC106_240319, 0874_QC307_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW140_240320, 0874_MW235_240320, 0874_QC107_240320, 0874_MW214_240320,	0874_MW250_240320, 0874_MW255_240320, 0874_MW234_240320, 0874_QC308_240320	20-Mar-2024	04-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW226_240321, 0874_MW228_240321, 0874_MW222_240321, 0874_QC309_240321	0874_QC108_240321, 0874_MW229_240321, 0874_MW300_240321,	21-Mar-2024	04-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC506_240322		22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW236_240318, 0874_MW257_240318, 0874_MW260_240318, 0874_MW256_230418, 0874_MW262_240318, 0874_QC305_240318	0874_MW258_240318, 0874_MW259_240318, 0874_MW270_240318, 0874_MW254_240318, 0874_MW136_240318,	18-Mar-2024	04-Apr-2024	14-Sep-2024	✔	04-Apr-2024	14-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_SW201_240319, 0874_SW111_240319, 0874_QC104_240319, 0874_MW205_240319, 0874_SW108_240319, 0874_QC306_240319,	0874_SW210_240319, 0874_SW110_240319, 0874_MW253_240319, 0874_MW301_240319, 0874_QC106_240319, 0874_QC307_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✔	04-Apr-2024	15-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_MW140_240320, 0874_MW235_240320, 0874_QC107_240320, 0874_MW214_240320,	0874_MW250_240320, 0874_MW255_240320, 0874_MW234_240320, 0874_QC308_240320	20-Mar-2024	04-Apr-2024	16-Sep-2024	✔	04-Apr-2024	16-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_MW226_240321, 0874_MW228_240321, 0874_MW222_240321, 0874_QC309_240321	0874_QC108_240321, 0874_MW229_240321, 0874_MW300_240321,	21-Mar-2024	04-Apr-2024	17-Sep-2024	✔	04-Apr-2024	17-Sep-2024	✔
HDPE (no PTFE) (EP231X) 0874_QC506_240322		22-Mar-2024	04-Apr-2024	18-Sep-2024	✔	04-Apr-2024	18-Sep-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) 0874_MW236_240318, 0874_MW257_240318, 0874_MW260_240318, 0874_MW256_230418, 0874_MW262_240318, 0874_QC305_240318	0874_MW258_240318, 0874_MW259_240318, 0874_MW270_240318, 0874_MW254_240318, 0874_MW136_240318,	18-Mar-2024	04-Apr-2024	14-Sep-2024	✓	04-Apr-2024	14-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW201_240319, 0874_SW111_240319, 0874_QC104_240319, 0874_MW205_240319, 0874_SW108_240319, 0874_QC306_240319,	0874_SW210_240319, 0874_SW110_240319, 0874_MW253_240319, 0874_MW301_240319, 0874_QC106_240319, 0874_QC307_240319	19-Mar-2024	04-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW140_240320, 0874_MW235_240320, 0874_QC107_240320, 0874_MW214_240320,	0874_MW250_240320, 0874_MW255_240320, 0874_MW234_240320, 0874_QC308_240320	20-Mar-2024	04-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW226_240321, 0874_MW228_240321, 0874_MW222_240321, 0874_QC309_240321	0874_QC108_240321, 0874_MW229_240321, 0874_MW300_240321,	21-Mar-2024	04-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC506_240322		22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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: **SOIL** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
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

Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	39	10.26	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	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 5.4, 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 5.4, 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.



QUALITY CONTROL REPORT

Work Order : **ET2401785**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : ALLUVIUM PO BOX 1581
 TOWNSVILLE QLD, AUSTRALIA 4810
Telephone : ----
Project : QLD_0874_PFASOMP_24
Order number : 60612487_2.3
C-O-C number : 65220
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 46
No. of samples analysed : 45

Page : 1 of 15
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 26-Mar-2024
Date Analysis Commenced : 03-Apr-2024
Issue Date : 05-Apr-2024



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 - Inorganics	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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: 5701939)									
ET2401785-020	0874_SD210_240319	EA055: Moisture Content	----	0.1	%	35.4	35.6	0.6	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5704027)									
ET2401785-020	0874_SD210_240319	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	0.0006	0.0006	0.0	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: 5704027)									
ET2401785-020	0874_SD210_240319	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: 5704027)							
ET2401785-020	0874_SD210_240319	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	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 (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5704027) - continued									
ET2401785-020	0874_SD210_240319	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5704027)									
ET2401785-020	0874_SD210_240319	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
EP231P: PFAS Sums (QC Lot: 5704027)									
ET2401785-020	0874_SD210_240319	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0006	0.0006	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0006	0.0006	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: 5703045)									
ET2401785-002	0874_MW258_240318	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	0.03	0.03	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
ET2401785-014	0874_SW111_240319	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.91	1.96	2.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.82	1.77	2.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.26	0.26	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.25	0.25	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.09	13.3	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: 5703045) - continued											
ET2401785-014	0874_SW111_240319	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: 5703051)											
ET2401785-030	0874_MW140_240320	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.05	0.05	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		
ET2401785-040	0874_MW228_240321	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.03	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	0.03	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: 5703045)											
ET2401785-002	0874_MW258_240318	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		
		ET2401785-014	0874_SW111_240319	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.10	0.10	0.0	0% - 50%
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.13	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.60	0.61	0.0	0% - 20%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.06	0.06	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: 5703051)									
ET2401785-030	0874_MW140_240320	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	0.03	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
ET2401785-040	0874_MW228_240321	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: 5703045)									
ET2401785-002	0874_MW258_240318	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
ET2401785-014	0874_SW111_240319	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: 5703045) - continued									
ET2401785-014	0874_SW111_240319	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: 5703051)									
ET2401785-030	0874_MW140_240320	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
ET2401785-040	0874_MW228_240321	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: 5703045)									
ET2401785-002	0874_MW258_240318	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: 5703045) - continued									
ET2401785-002	0874_MW258_240318	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
ET2401785-014	0874_SW111_240319	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: 5703051)									
ET2401785-030	0874_MW140_240320	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
ET2401785-040	0874_MW228_240321	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: 5703045)									
ET2401785-002	0874_MW258_240318	EP231X: Sum of PFAS	----	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	0.05	0.0	No Limit
ET2401785-014	0874_SW111_240319	EP231X: Sum of PFAS	----	0.01	µg/L	5.22	5.23	0.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.73	3.73	0.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.89	4.89	0.0	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 (%)
EP231P: PFAS Sums (QC Lot: 5703051)									
ET2401785-030	0874_MW140_240320	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.08	13.3	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	0.08	13.3	No Limit
ET2401785-040	0874_MW228_240321	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	0.07	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5704027)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00111 mg/kg	90.0	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	90.7	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00114 mg/kg	92.3	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	92.2	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	87.7	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00121 mg/kg	79.8	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5704027)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	83.8	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.9	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.2	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.7	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.6	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.4	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.1	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.4	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	111	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5704027)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.3	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.9	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	89.2	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.9	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5704027)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5704027) - continued									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	82.4	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00119 mg/kg	92.8	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	84.9	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00121 mg/kg	87.3	70.0	130	
EP231P: PFAS Sums (QCLot: 5704027)									
EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5703045)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	88.2	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	89.1	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	87.0	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	86.5	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	88.6	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	93.9	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5703051)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	86.5	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	85.0	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	85.0	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	81.0	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	86.5	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	86.9	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5703045)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	84.4	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	87.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	85.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	86.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	85.5	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.2	71.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5703045) - continued									
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	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: 5703051)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	83.7	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	86.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	86.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	86.9	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	86.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	88.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	100.0	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.8	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	111	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703045)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	87.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	94.7	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	78.8	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.9	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.9	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	86.0	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703051)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	86.9	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	103	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.8	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	83.1	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	90.3	70.0	130	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703051) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.5	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.3	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703045)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	87.3	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	89.4	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	86.6	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	87.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703051)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	88.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	87.0	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	88.9	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	82.1	70.0	130
EP231P: PFAS Sums (QCLot: 5703045)								
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: 5703051)								
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	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5704027)						
ET2401785-021	0874_SD111_240319	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00111 mg/kg	77.6	72.0 128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00118 mg/kg	75.6	73.0 123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00114 mg/kg	# Not Determined	67.0 130



Sub-Matrix: **SOIL**

				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: 5704027) - continued							
ET2401785-021	0874_SD111_240319	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	80.5	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	0.00121 mg/kg	66.9	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5704027)							
ET2401785-021	0874_SD111_240319	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	88.7	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	79.0	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	70.1	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	77.0	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	72.2	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	74.1	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	96.8	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	79.4	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	92.0	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	123	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	103	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5704027)							
ET2401785-021	0874_SD111_240319	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	77.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	85.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	76.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	75.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	73.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	76.6	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	73.6	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5704027)							
ET2401785-021	0874_SD111_240319	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	70.1	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00119 mg/kg	74.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	82.9	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00121 mg/kg	# 47.5	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5703045)							



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: 5703045) - continued							
ET2401785-006	0874_MW270_240318	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	88.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	90.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.8	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	84.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5703051)							
ET2401785-036	0874_MW214_240320	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	93.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	91.2	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	93.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	93.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	93.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	84.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5703045)							
ET2401785-006	0874_MW270_240318	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 52.1	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	82.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	81.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	84.9	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	86.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	90.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	87.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	93.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	104	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	104	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5703051)							
ET2401785-036	0874_MW214_240320	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 65.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	83.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	83.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	85.7	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	90.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	92.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	86.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	98.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	104	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703045)							



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: 5703045) - continued							
ET2401785-006	0874_MW270_240318	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	91.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	80.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	71.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	77.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	89.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	87.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	81.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703051)							
ET2401785-036	0874_MW214_240320	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.7	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	79.1	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	75.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	83.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	87.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	89.9	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	79.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703045)							
ET2401785-006	0874_MW270_240318	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	88.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	93.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	92.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	84.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703051)							
ET2401785-036	0874_MW214_240320	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	91.5	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	100	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	90.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	87.0	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2401785

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: ALLUVIUM PO BOX 1581 TOWNSVILLE QLD, AUSTRALIA 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 4
Order number	: 60612487_2.3	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 65220	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 26-Mar-2024 09:45	Issue Date	: 05-Apr-2024
Client Requested Due Date	: 05-Apr-2024	Scheduled Reporting Date	: 05-Apr-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 3	Temperature	: 10.8°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 46 / 45

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
- **05/04/2024: SRN has been resent to acknowledge an update to the reports assigned to derp.labreports@esdat.com.au as per email request from [REDACTED] (04/04/2024).**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (30 analytes)
ET2401785-020	19-Mar-2024 23:51	0874_SD210_240319		✓	✓
ET2401785-021	19-Mar-2024 12:53	0874_SD111_240319		✓	✓
ET2401785-022	19-Mar-2024 13:56	0874_SD110_240319		✓	✓
ET2401785-023	19-Mar-2024 16:23	0874_QC105_240319		✓	✓
ET2401785-024	19-Mar-2024 16:23	0874_SD108_240319		✓	✓
ET2401785-025	19-Mar-2024 10:24	0874_SD201_240319		✓	✓
ET2401785-042	21-Mar-2024 15:29	0874_SD121_240321	✓		

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (30 analytes)
ET2401785-001	18-Mar-2024 09:38	0874_MW236_240318	✓
ET2401785-002	18-Mar-2024 10:05	0874_MW258_240318	✓
ET2401785-003	18-Mar-2024 10:20	0874_MW257_240318	✓
ET2401785-004	18-Mar-2024 10:35	0874_MW259_240318	✓
ET2401785-005	18-Mar-2024 10:48	0874_MW260_240318	✓
ET2401785-006	18-Mar-2024 11:13	0874_MW270_240318	✓
ET2401785-007	18-Mar-2024 11:53	0874_MW256_230418	✓
ET2401785-008	18-Mar-2024 12:38	0874_MW254_240318	✓
ET2401785-009	18-Mar-2024 12:50	0874_MW262_240318	✓
ET2401785-010	18-Mar-2024 14:34	0874_MW136_240318	✓
ET2401785-011	18-Mar-2024 16:44	0874_QC305_240318	✓
ET2401785-012	19-Mar-2024 10:00	0874_SW201_240319	✓
ET2401785-013	19-Mar-2024 10:45	0874_SW210_240319	✓
ET2401785-014	19-Mar-2024 13:30	0874_SW111_240319	✓
ET2401785-015	19-Mar-2024 13:52	0874_SW110_240319	✓
ET2401785-016	19-Mar-2024 11:49	0874_QC104_240319	✓



			WATER - EP231X PFAS - Full Suite (30 analytes)
ET2401785-017	19-Mar-2024 11:51	0874_MW253_240319	✓
ET2401785-018	19-Mar-2024 13:41	0874_MW205_240319	✓
ET2401785-019	19-Mar-2024 13:54	0874_MW301_240319	✓
ET2401785-026	19-Mar-2024 16:27	0874_SW108_240319	✓
ET2401785-027	19-Mar-2024 16:27	0874_QC106_240319	✓
ET2401785-028	19-Mar-2024 16:28	0874_QC306_240319	✓
ET2401785-029	19-Mar-2024 16:29	0874_QC307_240319	✓
ET2401785-030	20-Mar-2024 09:12	0874_MW140_240320	✓
ET2401785-031	20-Mar-2024 09:41	0874_MW250_240320	✓
ET2401785-032	20-Mar-2024 12:54	0874_MW235_240320	✓
ET2401785-033	20-Mar-2024 13:10	0874_MW255_240320	✓
ET2401785-034	20-Mar-2024 13:11	0874_QC107_240320	✓
ET2401785-035	20-Mar-2024 13:34	0874_MW234_240320	✓
ET2401785-036	20-Mar-2024 15:54	0874_MW214_240320	✓
ET2401785-037	20-Mar-2024 16:02	0874_QC308_240320	✓
ET2401785-038	21-Mar-2024 13:49	0874_MW226_240321	✓
ET2401785-039	21-Mar-2024 13:50	0874_QC108_240321	✓
ET2401785-040	21-Mar-2024 14:09	0874_MW228_240321	✓
ET2401785-041	21-Mar-2024 14:35	0874_MW229_240321	✓
ET2401785-043	21-Mar-2024 15:30	0874_MW222_240321	✓
ET2401785-044	21-Mar-2024 16:14	0874_MW300_240321	✓
ET2401785-045	21-Mar-2024 17:14	0874_QC309_240321	✓
ET2401785-046	22-Mar-2024 10:05	0874_QC506_240322	✓

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



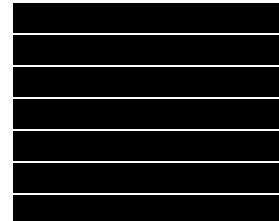
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

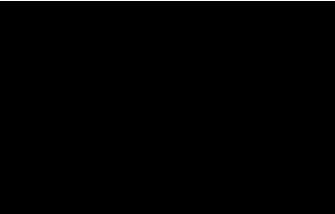
Email
Email
Email
Email
Email
Email
Email



DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email



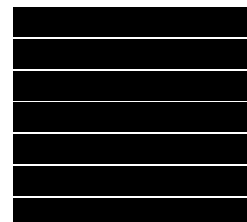
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



CERTIFICATE OF ANALYSIS

Work Order	: ET2401786	Page	: 1 of 31
Amendment	: 1		
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 26-Mar-2024 10:45
Order number	: 60612487_2.3	Date Analysis Commenced	: 02-Apr-2024
C-O-C number	: 65293	Issue Date	: 12-Apr-2024 14:26
Sampler	: [REDACTED] [REDACTED] [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 70		
No. of samples analysed	: 70		



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]	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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: Poor matrix spike recovery for samples ET2401786-015,039 due to sample matrix interference. Confirmed by re-analysis.
- EP231X: For Method Blank, LOR has been raised for PFOS due to laboratory background level. Confirmed by rerun.
- EP231X: Samples ET2401786 required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Poor matrix spike recovery for sample ET2401786-004 due to sample matrix interference.
- EP231X: LOR for particular samples have been raised due to the high moisture content.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- Amendment (12/04/2024): This report has been amended as a result of a request to change sample identification numbers (IDs) received from [REDACTED] on 12/04/2024, for samples ET2401786-37 and ET2401789-065. All analysis results are as per the previous report.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- Samples # 1 & 11 analysed and reported "as received" as per Peter.
- 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.
- 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 or as per USEPA 1633 limits where LISTED. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD102_240320	0874_SD013_240320	0874_SD131_240320	0874_SD016_240320	0874_QC152_240320
Sampling date / time					20-Mar-2024 10:00	20-Mar-2024 10:40	20-Mar-2024 10:53	20-Mar-2024 11:12	20-Mar-2024 11:13
Compound	CAS Number	LOR	Unit	ET2401786-001	ET2401786-004	ET2401786-006	ET2401786-008	ET2401786-009	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	61.7	29.6	35.8	37.6	36.1	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0010	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0188	0.0015	0.0032	0.0004	0.0004	0.0004
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0015	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0883	0.0153	0.0343	0.0022	0.0031	0.0031
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0009	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0015	0.0003	0.0005	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD102_240320	0874_SD013_240320	0874_SD131_240320	0874_SD016_240320	0874_QC152_240320
Sampling date / time					20-Mar-2024 10:00	20-Mar-2024 10:40	20-Mar-2024 10:53	20-Mar-2024 11:12	20-Mar-2024 11:13
Compound	CAS Number	LOR	Unit	ET2401786-001	ET2401786-004	ET2401786-006	ET2401786-008	ET2401786-009	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0004	<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	<0.0010	<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	<0.0010	<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	<0.0010	<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	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.114	0.0171	0.0389	0.0026	0.0035	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.107	0.0168	0.0375	0.0026	0.0035	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.110	0.0171	0.0380	0.0026	0.0035	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	93.5	97.8	107	111	93.5	
13C8-PFOA	----	0.0002	%	84.0	91.8	95.2	92.8	90.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD125_240320	0874_SD123_240320	0874_SD132_240320	0874_SD001_240320	0874_SD010_240320
Sampling date / time				20-Mar-2024 11:44	20-Mar-2024 12:04	20-Mar-2024 13:02	20-Mar-2024 13:11	20-Mar-2024 13:25	
Compound	CAS Number	LOR	Unit	ET2401786-011	ET2401786-014	ET2401786-016	ET2401786-018	ET2401786-019	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	56.7	30.3	49.3	22.3	45.8	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0082	0.0012	0.0028	0.0004	0.0004	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0130	0.0014	0.0026	0.0002	0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.242	0.0140	0.0206	0.0022	0.0025	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0493	0.0041	0.0016	0.0003	0.0003	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	2.21	0.270	0.0786	0.0149	0.0496	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0385	0.0005	0.0003	<0.0002	0.0011	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0022	0.0003	0.0015	<0.0002	0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0189	0.0020	0.0082	0.0006	0.0007	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0026	0.0002	0.0014	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0130	0.0008	0.0044	<0.0002	0.0004	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0006	<0.0002	0.0003	<0.0002	0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0144	0.0003	<0.0002	<0.0002	<0.0002	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD125_240320	0874_SD123_240320	0874_SD132_240320	0874_SD001_240320	0874_SD010_240320
Sampling date / time					20-Mar-2024 11:44	20-Mar-2024 12:04	20-Mar-2024 13:02	20-Mar-2024 13:11	20-Mar-2024 13:25
Compound	CAS Number	LOR	Unit	ET2401786-011	ET2401786-014	ET2401786-016	ET2401786-018	ET2401786-019	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0004	<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	<0.0010	<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	<0.0010	<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	<0.0010	<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	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	2.61	0.295	0.122	0.0186	0.0556	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	2.45	0.284	0.0992	0.0171	0.0521	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	2.50	0.288	0.118	0.0181	0.0538	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.0	112	99.2	110	87.0	
13C8-PFOA	----	0.0002	%	87.8	90.2	88.5	89.5	82.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD014_230320	0874_SD107_240320	0874_SD208_240320	0874_SD109_240320	0874_QC155_240320
Sampling date / time					20-Mar-2024 13:56	20-Mar-2024 14:50	20-Mar-2024 15:19	20-Mar-2024 15:39	20-Mar-2024 15:39
Compound	CAS Number	LOR	Unit	ET2401786-022	ET2401786-024	ET2401786-026	ET2401786-029	ET2401786-030	ET2401786-030
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<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	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<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	<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	<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	<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	<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	<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	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	0.0372	0.0003	<0.0002	0.0002	0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	0.0341	0.0003	<0.0002	0.0002	0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	0.0364	0.0003	<0.0002	0.0002	0.0002
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	102	71.8	79.9	93.0	73.4	73.4
13C8-PFOA	----	0.0002	%	90.8	88.5	99.7	93.2	98.6	98.6



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240320	0874_SW013_240320	0874_SW131_240320	0874_SW016_240320	0874_SW125_240320
Sampling date / time					20-Mar-2024 10:02	20-Mar-2024 10:39	20-Mar-2024 10:52	20-Mar-2024 11:10	20-Mar-2024 11:43
Compound	CAS Number	LOR	Unit	ET2401786-002	ET2401786-003	ET2401786-005	ET2401786-007	ET2401786-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.35	0.04	0.23	<0.02	0.56	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.28	<0.02	0.27	<0.02	0.77	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.84	0.13	2.29	0.07	6.59	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	<0.02	0.12	<0.02	0.40	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.64	0.10	2.47	0.18	11.4	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.03	
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	0.09	0.03	0.12	<0.02	0.25	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.39	0.04	0.61	<0.02	1.42	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	<0.02	0.06	<0.02	0.14	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.01	0.13	<0.01	0.28	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_240320	0874_SW013_240320	0874_SW131_240320	0874_SW016_240320	0874_SW125_240320
Sampling date / time				20-Mar-2024 10:02	20-Mar-2024 10:39	20-Mar-2024 10:52	20-Mar-2024 11:10	20-Mar-2024 11:43	
Compound	CAS Number	LOR	Unit	ET2401786-002	ET2401786-003	ET2401786-005	ET2401786-007	ET2401786-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	3.70	0.35	6.30	0.25	21.8	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.48	0.23	4.76	0.25	18.0	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.38	0.35	5.91	0.25	20.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.4	89.2	104	100	95.9	
13C8-PFOA	----	0.02	%	104	97.9	96.5	102	98.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_240320	0874_QC153_240320	0874_SW132_240320	0874_SW001_240320	0874_SW010_240320
Sampling date / time					20-Mar-2024 12:02	20-Mar-2024 12:02	20-Mar-2024 13:12	20-Mar-2024 13:09	20-Mar-2024 13:27
Compound	CAS Number	LOR	Unit	ET2401786-012	ET2401786-013	ET2401786-015	ET2401786-017	ET2401786-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	4.48	3.99	4.88	3.72	0.28	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	5.75	5.80	6.54	6.00	0.26	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	24.7	23.6	25.7	21.2	1.65	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	3.58	3.81	2.27	2.24	0.09	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	27.5	25.9	26.2	48.5	2.40	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.02	0.02	0.18	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.9	0.9	1.2	1.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.41	1.44	2.25	1.82	0.37	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	6.40	6.89	10.8	9.73	0.60	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.77	0.72	2.15	1.89	0.25	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.75	1.70	4.44	4.08	0.27	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.02	0.02	0.04	0.08	0.07	
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	0.03	0.03	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_240320	0874_QC153_240320	0874_SW132_240320	0874_SW001_240320	0874_SW010_240320
Sampling date / time				20-Mar-2024 12:02	20-Mar-2024 12:02	20-Mar-2024 13:12	20-Mar-2024 13:09	20-Mar-2024 13:27	
Compound	CAS Number	LOR	Unit	ET2401786-012	ET2401786-013	ET2401786-015	ET2401786-017	ET2401786-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.20	
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	77.3	74.8	86.5	100	6.44	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	52.2	49.5	51.9	69.7	4.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	67.9	65.1	77.6	92.0	6.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	103	99.2	96.7	97.9	
13C8-PFOA	----	0.02	%	114	110	102	116	111	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_240320	0874_SW107_240320	0874_SW208_240320	0874_SW109_240320	0874_QC154_240320
Sampling date / time					20-Mar-2024 13:50	20-Mar-2024 14:49	20-Mar-2024 15:17	20-Mar-2024 15:36	20-Mar-2024 15:38
Compound	CAS Number	LOR	Unit	ET2401786-021	ET2401786-023	ET2401786-025	ET2401786-027	ET2401786-028	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.17	<0.02	0.11	0.11	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.16	<0.02	0.11	0.11	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	1.19	0.01	0.69	0.71	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	<0.02	0.03	0.03	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.04	0.84	0.02	0.59	0.55	
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	0.06	<0.02	0.06	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.29	0.02	0.24	0.24	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.02	<0.02	0.04	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.05	0.01	0.08	0.08	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_240320	0874_SW107_240320	0874_SW208_240320	0874_SW109_240320	0874_QC154_240320
Sampling date / time				20-Mar-2024 13:50	20-Mar-2024 14:49	20-Mar-2024 15:17	20-Mar-2024 15:36	20-Mar-2024 15:38	
Compound	CAS Number	LOR	Unit	ET2401786-021	ET2401786-023	ET2401786-025	ET2401786-027	ET2401786-028	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.07	2.82	0.06	1.95	1.91	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.07	2.03	0.03	1.28	1.26	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	2.62	0.06	1.81	1.77	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.0	95.8	104	95.2	91.1	
13C8-PFOA	----	0.02	%	105	104	103	100	95.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW227_240320	0874_QC354_240320	0874_QC355_240320	0874_MW244_230319	0874_MW021_240319
Sampling date / time					20-Mar-2024 16:18	20-Mar-2024 16:35	20-Mar-2024 16:37	19-Mar-2024 08:22	19-Mar-2024 08:23
Compound	CAS Number	LOR	Unit	ET2401786-031	ET2401786-032	ET2401786-033	ET2401786-034	ET2401786-035	ET2401786-035
				Result	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	0.57	572	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.42	1100	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	<0.01	<0.01	1.41	14100	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.04	1340	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.02	2.44	14000	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.1	64.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.22	344	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.96	1870	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.06	258	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.06	828	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<8.62	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<3.45	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<8.62	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW227_240320	0874_QC354_240320	0874_QC355_240320	0874_MW244_230319	0874_MW021_240319
Sampling date / time					20-Mar-2024 16:18	20-Mar-2024 16:35	20-Mar-2024 16:37	19-Mar-2024 08:22	19-Mar-2024 08:23
Compound	CAS Number	LOR	Unit	ET2401786-031	ET2401786-032	ET2401786-033	ET2401786-034	ET2401786-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<8.62
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<8.62
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<8.62
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<3.45
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<3.45
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	<3.45
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	<3.45
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	<3.45
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	<3.45
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.05	0.02	0.02	6.28	34500	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.02	0.02	3.85	28100	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	0.02	0.02	5.82	32000	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	82.8	96.2	107	96.5	94.6	
13C8-PFOA	----	0.02	%	80.4	100	104	98.9	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW015_240319	0874_MW138_240319	0874_QC151_240319	0874_MW247_240319	0873_MW038_240319
Sampling date / time				19-Mar-2024 08:24	19-Mar-2024 08:26	19-Mar-2024 08:27	19-Mar-2024 08:28	19-Mar-2024 08:29	
Compound	CAS Number	LOR	Unit	ET2401786-036	ET2401786-037	ET2401786-038	ET2401786-039	ET2401786-040	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	51.0	68.4	0.61	0.49	0.14	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	80.7	88.2	0.40	0.88	0.18	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	643	620	1.26	10.9	1.35	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	33.9	53.8	0.05	1.70	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	220	839	2.59	63.7	1.05	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.04	<0.34	<0.02	<0.03	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	6.0	10.8	0.1	<0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	19.1	37.6	0.21	0.37	0.06	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	129	181	0.96	2.30	0.23	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	13.6	20.5	0.07	0.24	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	24.7	40.3	0.06	1.11	0.08	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.08	<0.34	<0.02	<0.03	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.34	<0.02	<0.03	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.34	<0.02	<0.03	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.34	<0.02	<0.03	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.34	<0.02	<0.03	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.10	<0.86	<0.05	<0.09	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.06	<0.34	<0.02	0.96	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.10	<0.86	<0.05	<0.09	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW015_240319	0874_MW138_240319	0874_QC151_240319	0874_MW247_240319	0873_MW038_240319
Sampling date / time				19-Mar-2024 08:24	19-Mar-2024 08:26	19-Mar-2024 08:27	19-Mar-2024 08:28	19-Mar-2024 08:29	
Compound	CAS Number	LOR	Unit	ET2401786-036	ET2401786-037	ET2401786-038	ET2401786-039	ET2401786-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.10	<0.86	<0.05	<0.09	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.10	<0.86	<0.05	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.10	<0.86	<0.05	<0.09	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.34	<0.02	<0.03	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.34	<0.02	<0.03	<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	<0.34	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.09	1.22	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.34	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.34	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1220	1960	6.31	82.6	3.18	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	863	1460	3.85	74.6	2.40	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1110	1820	5.86	79.1	2.95	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	127	95.4	98.5	109	
13C8-PFOA	----	0.02	%	94.9	115	93.8	98.0	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW231_240319	0874_MW043_240319	0874_MW139_240319	0874_MW061_240319	0874_MW110_240319
Sampling date / time				19-Mar-2024 08:31	19-Mar-2024 08:31	19-Mar-2024 08:32	19-Mar-2024 08:33	19-Mar-2024 08:34	
Compound	CAS Number	LOR	Unit	ET2401786-041	ET2401786-042	ET2401786-043	ET2401786-044	ET2401786-045	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.92	52.7	0.45	4.34	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	1.59	59.9	0.52	6.34	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	32.0	407	4.93	86.3	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	2.32	48.9	0.54	9.08	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	103	1130	14.6	188	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.03	0.73	<0.02	0.11	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.2	7.0	0.2	1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.80	32.0	0.23	4.35	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	5.92	157	0.99	14.0	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.78	25.3	0.16	1.90	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	3.48	54.6	0.51	5.20	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.10	0.37	<0.02	0.19	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.03	<0.35	<0.02	<0.04	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.03	<0.35	<0.02	<0.04	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.03	<0.35	<0.02	<0.04	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.03	<0.35	<0.02	<0.04	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.09	<0.88	<0.05	<0.09	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.06	0.86	0.04	0.06	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.09	<0.88	<0.05	<0.09	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW231_240319	0874_MW043_240319	0874_MW139_240319	0874_MW061_240319	0874_MW110_240319
Sampling date / time				19-Mar-2024 08:31	19-Mar-2024 08:31	19-Mar-2024 08:32	19-Mar-2024 08:33	19-Mar-2024 08:34	
Compound	CAS Number	LOR	Unit	ET2401786-041	ET2401786-042	ET2401786-043	ET2401786-044	ET2401786-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.09	<0.88	<0.05	<0.09	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.09	<0.88	<0.05	<0.09	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.09	<0.88	<0.05	<0.09	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.03	<0.35	<0.02	<0.04	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.03	<0.35	<0.02	<0.04	
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	<0.35	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	26.8	<0.05	0.10	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.93	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.35	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	151	2000	23.2	321	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	135	1540	19.5	274	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	147	1890	22.1	305	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	93.7	136	95.9	87.0	
13C8-PFOA	----	0.02	%	90.7	101	113	91.4	96.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW009_240319	0874_MW248_240319	0874_MW109_240319	0874_QC353_240319	0874_MW237_240321
Sampling date / time					19-Mar-2024 08:34	19-Mar-2024 08:35	19-Mar-2024 08:36	19-Mar-2024 08:37	21-Mar-2024 10:35
Compound	CAS Number	LOR	Unit	ET2401786-046	ET2401786-047	ET2401786-048	ET2401786-049	ET2401786-050	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.69	29.3	68.3	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.83	40.3	76.2	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	14.7	407	653	<0.01	0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.54	46.5	60.5	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	29.3	876	1150	<0.01	0.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.35	<0.35	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	<1.8	6.8	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.69	12.0	38.6	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.27	82.0	187	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.52	7.72	21.6	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.73	31.0	48.5	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.45	0.60	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.35	<0.35	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.35	<0.35	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.35	<0.35	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.35	<0.35	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.88	<0.87	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.59	<0.35	0.82	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.88	<0.87	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW009_240319	0874_MW248_240319	0874_MW109_240319	0874_QC353_240319	0874_MW237_240321
Sampling date / time				19-Mar-2024 08:34	19-Mar-2024 08:35	19-Mar-2024 08:36	19-Mar-2024 08:37	21-Mar-2024 10:35	
Compound	CAS Number	LOR	Unit	ET2401786-046	ET2401786-047	ET2401786-048	ET2401786-049	ET2401786-050	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.88	<0.87	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.88	<0.87	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.88	<0.87	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.35	<0.35	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.35	<0.35	<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	<0.35	<0.35	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.35	9.30	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.35	<0.35	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.35	<0.35	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	57.2	1530	2320	<0.01	0.05	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	44.0	1280	1800	<0.01	0.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	53.2	1440	2180	<0.01	0.05	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	136	136	110	112	
13C8-PFOA	----	0.02	%	99.7	125	110	96.5	90.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC156_240321	0874_MW239_240321	0874_MW240_240321	0874_MW208_240321	0874_MW471_240321
Sampling date / time					21-Mar-2024 10:35	21-Mar-2024 11:16	21-Mar-2024 11:30	21-Mar-2024 12:15	21-Mar-2024 12:25
Compound	CAS Number	LOR	Unit	ET2401786-051	ET2401786-052	ET2401786-053	ET2401786-054	ET2401786-055	ET2401786-055
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	0.08	0.13	0.24	0.07	0.07
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.06	0.08	0.18	0.07	0.07
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.08	0.13	0.24	0.07	0.07
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	95.4	109	118	98.1	98.1
13C8-PFOA	----	0.02	%	95.2	93.6	104	94.5	104	104



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW467_240321	0874_MW211_240321	0874_MW212_240321	0874_MW233_240321	0874_MW252_240321
Sampling date / time				21-Mar-2024 12:35	21-Mar-2024 12:47	21-Mar-2024 13:05	21-Mar-2024 13:21	21-Mar-2024 13:32	
Compound	CAS Number	LOR	Unit	ET2401786-056	ET2401786-057	ET2401786-058	ET2401786-059	ET2401786-060	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.07	0.09	0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.07	0.09	0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.07	0.09	0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.4	92.6	94.7	99.8	97.2	
13C8-PFOA	----	0.02	%	105	108	109	106	99.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW213_240321	0874_MW215_240321	0874_QC157_240321	0874_MW207_240321	0874_MW204_240321
Sampling date / time				21-Mar-2024 13:59	21-Mar-2024 14:58	21-Mar-2024 14:58	21-Mar-2024 15:12	21-Mar-2024 15:13	
Compound	CAS Number	LOR	Unit	ET2401786-061	ET2401786-062	ET2401786-063	ET2401786-064	ET2401786-065	
				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	0.03	<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	0.05	<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	0.02	0.02	0.11	0.06	
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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW213_240321	0874_MW215_240321	0874_QC157_240321	0874_MW207_240321	0874_MW204_240321
Sampling date / time				21-Mar-2024 13:59	21-Mar-2024 14:58	21-Mar-2024 14:58	21-Mar-2024 15:12	21-Mar-2024 15:13	
Compound	CAS Number	LOR	Unit	ET2401786-061	ET2401786-062	ET2401786-063	ET2401786-064	ET2401786-065	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	0.02	0.02	0.19	0.06	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.02	0.02	0.16	0.06	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.02	0.02	0.19	0.06	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.7	101	101	103	105	
13C8-PFOA	----	0.02	%	104	102	105	108	108	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC172_240321	0874_QC173_240321	0874_QC374_240321	0874_QC356_240321	0874_QC504_240322
Sampling date / time					21-Mar-2024 15:14	21-Mar-2024 15:15	21-Mar-2024 15:43	21-Mar-2024 15:58	22-Mar-2024 09:45
Compound	CAS Number	LOR	Unit	ET2401786-066	ET2401786-067	ET2401786-068	ET2401786-069	ET2401786-070	ET2401786-070
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.20	0.07	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.16	0.07	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.20	0.07	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	102	102	104	104	92.1
13C8-PFOA	----	0.02	%	101	109	103	103	103	104



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order : ET2401786

Page : 1 of 13

Amendment : 1

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : MS [REDACTED]

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_24

Date Samples Received : 26-Mar-2024

Site : QLD_0874

Issue Date : 12-Apr-2024

Sampler : [REDACTED]

No. of samples received : 70

Order number : 60612487_2.3

No. of samples analysed : 70

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

- **NO** Quality Control Sample Frequency Outliers exist.



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	ET2401786--004	0874_SD013_240320	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231C: Perfluoroalkyl Sulfonamides	ET2401786--004	0874_SD013_240320	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	68.4 %	70.0-130%	Recovery less than lower data quality objective
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2401786--004	0874_SD013_240320	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	58.0 %	70.0-130%	Recovery less than lower data quality objective

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401786--035	0874_MW021_240319	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	24.8 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401786--035	0874_MW021_240319	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	23.2 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401786--015	0874_SW132_240320	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	ET2401786--015	0874_SW132_240320	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	ET2401786--039	0874_MW247_240319	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	ET2401786--015	0874_SW132_240320	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	ET2401786--039	0874_MW247_240319	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	ET2401786--015	0874_SW132_240320	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.



Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401786--039	0874_MW247_240319	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401786--015	0874_SW132_240320	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2401786--039	0874_MW247_240319	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	ET2401786--039	0874_MW247_240319	Perfluorobutanoic acid (PFBA)	375-22-4	67.1 %	73.0-129%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--057	0874_MW211_240321	Perfluorobutanoic acid (PFBA)	375-22-4	71.9 %	73.0-129%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--015	0874_SW132_240320	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	ET2401786--015	0874_SW132_240320	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	ET2401786--039	0874_MW247_240319	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	ET2401786--015	0874_SW132_240320	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	ET2401786--039	0874_MW247_240319	Perfluoroheptanoic acid (PFHpA)	375-85-9	64.8 %	72.0-130%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--015	0874_SW132_240320	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--039	0874_MW247_240319	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--057	0874_MW211_240321	Perfluoroundecanoic acid (PFUnDA)	2058-94-8	57.6 %	69.0-133%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--057	0874_MW211_240321	Perfluorododecanoic acid (PFDoDA)	307-55-1	60.3 %	72.0-134%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--057	0874_MW211_240321	Perfluorotridecanoic acid (PFTrDA)	72629-94-8	52.6 %	65.0-144%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2401786--015	0874_SW132_240320	Perfluorotetradecanoic acid (PFTeDA)	376-06-7	68.2 %	71.0-132%	Recovery less than lower data quality objective



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)								
0874_SD102_240320, 0874_SD131_240320, 0874_QC152_240320, 0874_SD123_240320, 0874_SD001_240320, 0874_SD014_230320, 0874_SD208_240320, 0874_QC155_240320	0874_SD013_240320, 0874_SD016_240320, 0874_SD125_240320, 0874_SD132_240320, 0874_SD010_240320, 0874_SD107_240320, 0874_SD109_240320	20-Mar-2024	----	----	----	02-Apr-2024	03-Apr-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD102_240320, 0874_SD131_240320, 0874_QC152_240320, 0874_SD123_240320, 0874_SD001_240320, 0874_SD014_230320, 0874_SD208_240320, 0874_QC155_240320	0874_SD013_240320, 0874_SD016_240320, 0874_SD125_240320, 0874_SD132_240320, 0874_SD010_240320, 0874_SD107_240320, 0874_SD109_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	13-May-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X)								
0874_SD102_240320, 0874_SD131_240320, 0874_QC152_240320, 0874_SD123_240320, 0874_SD001_240320, 0874_SD014_230320, 0874_SD208_240320, 0874_QC155_240320	0874_SD013_240320, 0874_SD016_240320, 0874_SD125_240320, 0874_SD132_240320, 0874_SD010_240320, 0874_SD107_240320, 0874_SD109_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	13-May-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
0874_SD102_240320, 0874_SD131_240320, 0874_QC152_240320, 0874_SD123_240320, 0874_SD001_240320, 0874_SD014_230320, 0874_SD208_240320, 0874_QC155_240320	0874_SD013_240320, 0874_SD016_240320, 0874_SD125_240320, 0874_SD132_240320, 0874_SD010_240320, 0874_SD107_240320, 0874_SD109_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	13-May-2024	✓



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)								
0874_SD102_240320,	0874_SD013_240320,	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	13-May-2024	✓
0874_SD131_240320,	0874_SD016_240320,							
0874_QC152_240320,	0874_SD125_240320,							
0874_SD123_240320,	0874_SD132_240320,							
0874_SD001_240320,	0874_SD010_240320,							
0874_SD014_230320,	0874_SD107_240320,							
0874_SD208_240320,	0874_SD109_240320,							
0874_QC155_240320								
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
0874_SD102_240320,	0874_SD013_240320,	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	13-May-2024	✓
0874_SD131_240320,	0874_SD016_240320,							
0874_QC152_240320,	0874_SD125_240320,							
0874_SD123_240320,	0874_SD132_240320,							
0874_SD001_240320,	0874_SD010_240320,							
0874_SD014_230320,	0874_SD107_240320,							
0874_SD208_240320,	0874_SD109_240320,							
0874_QC155_240320								

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) 0874_MW244_230319, 0874_MW015_240319, 0874_QC151_240319, 0873_MW038_240319, 0874_MW043_240319, 0874_MW061_240319, 0874_MW009_240319, 0874_MW109_240319,	0874_MW021_240319, 0874_MW138_240319, 0874_MW247_240319, 0874_MW231_240319, 0874_MW139_240319, 0874_MW110_240319, 0874_MW248_240319, 0874_QC353_240319	19-Mar-2024	03-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240320, 0874_SW131_240320, 0874_SW125_240320, 0874_QC153_240320, 0874_SW001_240320, 0874_SW014_240320, 0874_SW208_240320, 0874_QC154_240320, 0874_QC354_240320,	0874_SW013_240320, 0874_SW016_240320, 0874_SW123_240320, 0874_SW132_240320, 0874_SW010_240320, 0874_SW107_240320, 0874_SW109_240320, 0874_MW227_240320, 0874_QC355_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW237_240321, 0874_MW239_240321, 0874_MW208_240321, 0874_MW467_240321, 0874_MW212_240321, 0874_MW252_240321, 0874_MW215_240321, 0874_MW207_240321, 0874_QC172_240321, 0874_QC374_240321,	0874_QC156_240321, 0874_MW240_240321, 0874_MW471_240321, 0874_MW211_240321, 0874_MW233_240321, 0874_MW213_240321, 0874_QC157_240321, 0874_MW204_240321, 0874_QC173_240321, 0874_QC356_240321	21-Mar-2024	03-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC504_240322		22-Mar-2024	03-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW244_230319, 0874_MW015_240319, 0874_QC151_240319, 0873_MW038_240319, 0874_MW043_240319, 0874_MW061_240319, 0874_MW009_240319, 0874_MW109_240319,	0874_MW021_240319, 0874_MW138_240319, 0874_MW247_240319, 0874_MW231_240319, 0874_MW139_240319, 0874_MW110_240319, 0874_MW248_240319, 0874_QC353_240319	19-Mar-2024	03-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240320, 0874_SW131_240320, 0874_SW125_240320, 0874_QC153_240320, 0874_SW001_240320, 0874_SW014_240320, 0874_SW208_240320, 0874_QC154_240320, 0874_QC354_240320,	0874_SW013_240320, 0874_SW016_240320, 0874_SW123_240320, 0874_SW132_240320, 0874_SW010_240320, 0874_SW107_240320, 0874_SW109_240320, 0874_MW227_240320, 0874_QC355_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW237_240321, 0874_MW239_240321, 0874_MW208_240321, 0874_MW467_240321, 0874_MW212_240321, 0874_MW252_240321, 0874_MW215_240321, 0874_MW207_240321, 0874_QC172_240321, 0874_QC374_240321,	0874_QC156_240321, 0874_MW240_240321, 0874_MW471_240321, 0874_MW211_240321, 0874_MW233_240321, 0874_MW213_240321, 0874_QC157_240321, 0874_MW204_240321, 0874_QC173_240321, 0874_QC356_240321	21-Mar-2024	03-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC504_240322		22-Mar-2024	03-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW244_230319, 0874_MW015_240319, 0874_QC151_240319, 0873_MW038_240319, 0874_MW043_240319, 0874_MW061_240319, 0874_MW009_240319, 0874_MW109_240319,	0874_MW021_240319, 0874_MW138_240319, 0874_MW247_240319, 0874_MW231_240319, 0874_MW139_240319, 0874_MW110_240319, 0874_MW248_240319, 0874_QC353_240319	19-Mar-2024	03-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240320, 0874_SW131_240320, 0874_SW125_240320, 0874_QC153_240320, 0874_SW001_240320, 0874_SW014_240320, 0874_SW208_240320, 0874_QC154_240320, 0874_QC354_240320,	0874_SW013_240320, 0874_SW016_240320, 0874_SW123_240320, 0874_SW132_240320, 0874_SW010_240320, 0874_SW107_240320, 0874_SW109_240320, 0874_MW227_240320, 0874_QC355_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW237_240321, 0874_MW239_240321, 0874_MW208_240321, 0874_MW467_240321, 0874_MW212_240321, 0874_MW252_240321, 0874_MW215_240321, 0874_MW207_240321, 0874_QC172_240321, 0874_QC374_240321,	0874_QC156_240321, 0874_MW240_240321, 0874_MW471_240321, 0874_MW211_240321, 0874_MW233_240321, 0874_MW213_240321, 0874_QC157_240321, 0874_MW204_240321, 0874_QC173_240321, 0874_QC356_240321	21-Mar-2024	03-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC504_240322		22-Mar-2024	03-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW244_230319, 0874_MW015_240319, 0874_QC151_240319, 0873_MW038_240319, 0874_MW043_240319, 0874_MW061_240319, 0874_MW009_240319, 0874_MW109_240319,	0874_MW021_240319, 0874_MW138_240319, 0874_MW247_240319, 0874_MW231_240319, 0874_MW139_240319, 0874_MW110_240319, 0874_MW248_240319, 0874_QC353_240319	19-Mar-2024	03-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240320, 0874_SW131_240320, 0874_SW125_240320, 0874_QC153_240320, 0874_SW001_240320, 0874_SW014_240320, 0874_SW208_240320, 0874_QC154_240320, 0874_QC354_240320,	0874_SW013_240320, 0874_SW016_240320, 0874_SW123_240320, 0874_SW132_240320, 0874_SW010_240320, 0874_SW107_240320, 0874_SW109_240320, 0874_MW227_240320, 0874_QC355_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW237_240321, 0874_MW239_240321, 0874_MW208_240321, 0874_MW467_240321, 0874_MW212_240321, 0874_MW252_240321, 0874_MW215_240321, 0874_MW207_240321, 0874_QC172_240321, 0874_QC374_240321,	0874_QC156_240321, 0874_MW240_240321, 0874_MW471_240321, 0874_MW211_240321, 0874_MW233_240321, 0874_MW213_240321, 0874_QC157_240321, 0874_MW204_240321, 0874_QC173_240321, 0874_QC356_240321	21-Mar-2024	03-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC504_240322		22-Mar-2024	03-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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) 0874_MW244_230319, 0874_MW015_240319, 0874_QC151_240319, 0873_MW038_240319, 0874_MW043_240319, 0874_MW061_240319, 0874_MW009_240319, 0874_MW109_240319,	0874_MW021_240319, 0874_MW138_240319, 0874_MW247_240319, 0874_MW231_240319, 0874_MW139_240319, 0874_MW110_240319, 0874_MW248_240319, 0874_QC353_240319	19-Mar-2024	03-Apr-2024	15-Sep-2024	✓	04-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_SW102_240320, 0874_SW131_240320, 0874_SW125_240320, 0874_QC153_240320, 0874_SW001_240320, 0874_SW014_240320, 0874_SW208_240320, 0874_QC154_240320, 0874_QC354_240320,	0874_SW013_240320, 0874_SW016_240320, 0874_SW123_240320, 0874_SW132_240320, 0874_SW010_240320, 0874_SW107_240320, 0874_SW109_240320, 0874_MW227_240320, 0874_QC355_240320	20-Mar-2024	03-Apr-2024	16-Sep-2024	✓	04-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW237_240321, 0874_MW239_240321, 0874_MW208_240321, 0874_MW467_240321, 0874_MW212_240321, 0874_MW252_240321, 0874_MW215_240321, 0874_MW207_240321, 0874_QC172_240321, 0874_QC374_240321,	0874_QC156_240321, 0874_MW240_240321, 0874_MW471_240321, 0874_MW211_240321, 0874_MW233_240321, 0874_MW213_240321, 0874_QC157_240321, 0874_MW204_240321, 0874_QC173_240321, 0874_QC356_240321	21-Mar-2024	03-Apr-2024	17-Sep-2024	✓	04-Apr-2024	17-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC504_240322		22-Mar-2024	03-Apr-2024	18-Sep-2024	✓	04-Apr-2024	18-Sep-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: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	15	6.67	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	55	10.91	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	55	5.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	55	5.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	55	5.45	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 5.4, 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 5.4, 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.



QUALITY CONTROL REPORT

Work Order : ET2401786

Page : 1 of 22

Amendment : 1

Client : AECOM AUSTRALIA PTY LTD
Contact : MS [REDACTED]
Address : LEVEL 5 7-13 TOMLINS STREET
SOUTH TOWNSVILLE 4810

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815

Telephone : ----

Telephone : [REDACTED]
Date Samples Received : 26-Mar-2024

Project : QLD_0874_PFASOMP_24

Date Analysis Commenced : 02-Apr-2024

Order number : 60612487_2.3

Issue Date : 12-Apr-2024

C-O-C number : 65293

Sampler : [REDACTED] [REDACTED] [REDACTED]

Site : QLD_0874

Quote number : EB23AECOMAU0017

No. of samples received : 70

No. of samples analysed : 70



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]	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5699523)									
ET2401786-004	0874_SD013_240320	EA055: Moisture Content	----	0.1	%	29.6	29.2	1.1	0% - 20%
ET2401786-022	0874_SD014_230320	EA055: Moisture Content	----	0.1	%	14.6	15.9	8.7	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5701371)									
ET2401786-001	0874_SD102_240320	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002 (0.0004)*	mg/kg	0.0011	0.0014	25.9	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002 (0.0004)*	mg/kg	0.0010	0.0013	32.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002 (0.0004)*	mg/kg	0.0188	0.0229	19.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002 (0.0004)*	mg/kg	0.0015	0.0015	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002 (0.0004)*	mg/kg	0.0883	0.0904	2.3	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002 (0.0004)*	mg/kg	0.0009	0.0011	19.8	No Limit
ET2401786-022	0874_SD014_230320	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	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	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: 5701371)									
ET2401786-001	0874_SD102_240320	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002 (0.0004)*	mg/kg	0.0015	0.0013	14.7	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002 (0.0004)*	mg/kg	0.0005	0.0007	30.1	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001 (0.002) *	mg/kg	<0.002	<0.002	0.0	No Limit
ET2401786-022	0874_SD014_230320	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: 5701371)									
ET2401786-001	0874_SD102_240320	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002 (0.0004)*	mg/kg	<0.0004	<0.0004	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 (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5701371) - continued									
ET2401786-001	0874_SD102_240320	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
ET2401786-022	0874_SD014_230320	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5701371)									
ET2401786-001	0874_SD102_240320	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
ET2401786-022	0874_SD014_230320	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
EP231P: PFAS Sums (QC Lot: 5701371)									
ET2401786-001	0874_SD102_240320	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002 (0.0004)*	mg/kg	0.107	0.113	5.6	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 (%)
EP231P: PFAS Sums (QC Lot: 5701371) - continued									
ET2401786-001	0874_SD102_240320	EP231X: Sum of PFAS (WA DER List)	----	0.0002 (0.0004)*	mg/kg	0.110	0.117	5.7	0% - 20%
ET2401786-022	0874_SD014_230320	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
Sub-Matrix: WATER									
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: 5700127)									
ET2401786-003	0874_SW013_240320	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.13	0.15	11.1	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.10	0.08	18.4	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.05	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
ET2401786-025	0874_SW208_240320	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5700129)									
ET2401786-035	0874_MW021_240319	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01 (34.5)*	µg/L	14100	13300	5.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (34.5)*	µg/L	14000	14100	1.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02 (3.45)*	µg/L	572	488	15.9	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02 (3.45)*	µg/L	1100	# 859	24.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02 (3.45)*	µg/L	1340	# 1060	23.2	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
ET2401786-040	0873_MW038_240319	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.35	1.27	5.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.05	1.01	3.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.14	0.14	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.18	0.18	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.05	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: 5700275)									
ET2401786-053	0874_MW240_240321	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.05	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	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: 5700275) - continued									
ET2401786-053	0874_MW240_240321	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
ET2401786-061	0874_MW213_240321	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
		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: 5700127)									
ET2401786-003	0874_SW013_240320	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	0.03	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	<0.02	<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
		ET2401786-025	0874_SW208_240320	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01
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: 5700129)									
ET2401786-035	0874_MW021_240319	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01 (3.45)*	µg/L	828	709	15.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02 (3.45)*	µg/L	344	298	14.4	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02 (3.45)*	µg/L	1870	1570	17.4	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02 (3.45)*	µg/L	258	216	17.8	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: 5700129) - continued									
ET2401786-035	0874_MW021_240319	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05 (8.63)*	µg/L	<8.62	<8.63	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1 (17.2)*	µg/L	64.7	49.6	26.4	No Limit
ET2401786-040	0873_MW038_240319	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.08	0.07	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.23	0.22	6.1	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	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: 5700275)							
ET2401786-053	0874_MW240_240321	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	0.05	0.05	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
		ET2401786-061	0874_MW213_240321	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01
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



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: 5700275) - continued									
ET2401786-061	0874_MW213_240321	EP231X: Perfluorotridecanoic acid (PFTTrDA)	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: 5700127)									
ET2401786-003	0874_SW013_240320	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
ET2401786-025	0874_SW208_240320	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: 5700129)									
ET2401786-035	0874_MW021_240319	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02 (3.45)*	µg/L	<3.45	3.62	5.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05 (8.63)*	µg/L	<8.62	<8.63	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05 (8.63)*	µg/L	<8.62	<8.63	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: 5700129) - continued									
ET2401786-035	0874_MW021_240319	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05 (8.63)*	µg/L	<8.62	<8.63	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05 (8.63)*	µg/L	<8.62	<8.63	0.0	No Limit
ET2401786-040	0873_MW038_240319	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: 5700275)									
ET2401786-053	0874_MW240_240321	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
ET2401786-061	0874_MW213_240321	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: 5700275) - continued									
ET2401786-061	0874_MW213_240321	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: 5700127)									
ET2401786-003	0874_SW013_240320	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
ET2401786-025	0874_SW208_240320	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: 5700129)									
ET2401786-035	0874_MW021_240319	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05 (3.45)*	µg/L	<3.45	<3.45	0.0	No Limit
ET2401786-040	0873_MW038_240319	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: 5700275)									
ET2401786-053	0874_MW240_240321	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: 5700275) - continued									
ET2401786-053	0874_MW240_240321	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
ET2401786-061	0874_MW213_240321	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: 5700127)									
ET2401786-003	0874_SW013_240320	EP231X: Sum of PFAS	----	0.01	µg/L	0.35	0.38	8.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.23	0.23	0.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.35	0.36	2.8	0% - 20%
ET2401786-025	0874_SW208_240320	EP231X: Sum of PFAS	----	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.06	0.06	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5700129)									
ET2401786-035	0874_MW021_240319	EP231X: Sum of PFAS	----	0.01 (3.45)*	µg/L	34500	32600	5.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (3.45)*	µg/L	28100	27400	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01 (3.45)*	µg/L	32000	30700	4.2	0% - 20%
ET2401786-040	0873_MW038_240319	EP231X: Sum of PFAS	----	0.01	µg/L	3.18	3.04	4.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.40	2.28	5.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2.95	2.81	4.9	0% - 20%
EP231P: PFAS Sums (QC Lot: 5700275)									
ET2401786-053	0874_MW240_240321	EP231X: Sum of PFAS	----	0.01	µg/L	0.13	0.11	16.7	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.06	28.6	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.13	0.11	16.7	0% - 50%
ET2401786-061	0874_MW213_240321	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

Page : 12 of 22
 Work Order : ET2401786 Amendment 1
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_24



Sub-Matrix: WATER				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>
EP231P: PFAS Sums (QC Lot: 5700275) - continued									
ET2401786-061	0874_MW213_240321	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5701371)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00111 mg/kg	97.0	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	93.3	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00114 mg/kg	89.9	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	89.0	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	91.9	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00121 mg/kg	92.7	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5701371)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	106	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.8	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.2	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.5	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.8	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.1	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5701371)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	89.3	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	103	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.0	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5701371)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5701371) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	103	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00119 mg/kg	94.2	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	101	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00121 mg/kg	93.0	70.0	130
EP231P: PFAS Sums (QCLot: 5701371)								
EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5700127)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	90.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	97.1	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	94.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	100	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	81.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5700129)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	93.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	99.5	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	102	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	95.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.03	0.232 µg/L	105	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5700275)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	87.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	87.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	90.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	98.6	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	87.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700127)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700127) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.3	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	87.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	85.9	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	86.9	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.0	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	83.1	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	77.9	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	94.3	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	108	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700129)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.8	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	101	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	93.6	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	81.1	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.7	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700275)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.4	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	83.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	83.9	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	93.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	74.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	80.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	76.2	65.0	144



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700275) - continued								
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	94.0	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5700127)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	96.3	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	117	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.3	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	97.2	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	85.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5700129)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.5	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	97.3	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	73.0	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	94.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	81.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5700275)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.9	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	98.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	90.6	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.2	70.0	130
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	83.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700127)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700127) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	93.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	84.8	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	97.0	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	75.3	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700129)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	98.2	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	88.6	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	97.0	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	76.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700275)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	88.7	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	84.2	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	89.0	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	73.7	70.0	130
EP231P: PFAS Sums (QCLot: 5700127)								
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: 5700129)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.03	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.03	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.03	----	----	----	----
EP231P: PFAS Sums (QCLot: 5700275)								
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**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Acceptable Limits (%)



Sub-Matrix: SOIL

				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: 5701371)							
ET2401786-004	0874_SD013_240320	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00111 mg/kg	73.6	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00118 mg/kg	75.0	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00114 mg/kg	86.4	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHps)	375-92-8	0.00119 mg/kg	77.9	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	0.00121 mg/kg	87.6	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5701371)							
ET2401786-004	0874_SD013_240320	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	88.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	81.8	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	93.2	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	83.8	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	86.0	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	85.6	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	71.8	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	76.4	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	86.0	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	85.4	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	82.6	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5701371)							
ET2401786-004	0874_SD013_240320	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	82.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	72.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	92.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	# 68.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	82.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	65.2	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	73.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5701371)							
ET2401786-004	0874_SD013_240320	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	82.9	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00119 mg/kg	69.7	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	80.8	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00121 mg/kg	# 58.0	70.0	130

Sub-Matrix: WATER

Matrix Spike (MS) Report



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5700127)							
ET2401786-015	0874_SW132_240320	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 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	0.228 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	# Not Determined	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	130	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5700129)							
ET2401786-039	0874_MW247_240319	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	102	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	0.228 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	# Not Determined	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	71.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5700275)							
ET2401786-057	0874_MW211_240321	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	91.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	94.5	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	88.2	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	105	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	83.2	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	57.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700127)							
ET2401786-015	0874_SW132_240320	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.8	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: 5700127) - continued							
ET2401786-015	0874_SW132_240320	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.7	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	79.1	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	83.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	65.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	# 68.2	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700129)							
ET2401786-039	0874_MW247_240319	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 67.1	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	81.5	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	# 64.8	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	94.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	69.9	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	73.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	65.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	# 70.7	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5700275)					
ET2401786-057	0874_MW211_240321	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 71.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	86.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	81.3	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	81.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	93.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	86.9	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	78.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	# 57.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	# 60.3	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	# 52.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	72.7	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5700127)					
ET2401786-015	0874_SW132_240320	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	86.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	87.9	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.9	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: 5700127) - continued							
ET2401786-015	0874_SW132_240320	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	86.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	76.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5700129)							
ET2401786-039	0874_MW247_240319	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	# Not Determined	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	# 58.5	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	# 67.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	73.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	71.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	# 58.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	65.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5700275)							
ET2401786-057	0874_MW211_240321	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	80.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	74.5	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	# 57.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	73.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	74.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	# 64.9	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	# 52.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700127)							
ET2401786-015	0874_SW132_240320	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	97.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	83.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	91.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	75.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700129)							



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: 5700129) - continued							
ET2401786-039	0874_MW247_240319	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	97.9	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	76.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	80.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	72.1	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5700275)							
ET2401786-057	0874_MW211_240321	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	100	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	97.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	83.6	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 42.9	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ET2401786**
Amendment : **1**

Client : **AECOM AUSTRALIA PTY LTD** Laboratory : Environmental Division Townsville
Contact : MS [REDACTED] Contact : [REDACTED]
Address : LEVEL 5 7-13 TOMLINS STREET Address : 13 Carlton Street, Kirwan Townsville
SOUTH TOWNSVILLE 4810 QLD Australia 4815

E-mail : [REDACTED] E-mail : [REDACTED]
Telephone : ---- Telephone : [REDACTED]
Facsimile : ---- Facsimile : [REDACTED]

Project : QLD_0874_PFASOMP_24 Page : 1 of 5
Order number : 60612487_2.3 Quote number : EB2023AECOMAU0017
(EB23AECOMAU0017)
C-O-C number : 65293 QC Level : NEPM 2013 B3 & ALS QC Standard
Site : QLD_0874
Sampler : [REDACTED]

Dates

Date Samples Received : 26-Mar-2024 10:45 Issue Date : 12-Apr-2024
Client Requested Due Date : 04-Apr-2024 Scheduled Reporting Date : **04-Apr-2024**

Delivery Details

Mode of Delivery : Carrier Security Seal : Not Available
No. of coolers/boxes : 3 Temperature : 10.8°C - Ice present
Receipt Detail : No. of samples received / analysed : 70 / 70

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
- **05/04/2024: SRN has been resent to acknowledge an update to the reports assigned to [REDACTED] as per email request from [REDACTED] (04/04/2024).**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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 (30 analytes)
ET2401786-001	20-Mar-2024 10:00	0874_SD102_240320	✓	✓
ET2401786-004	20-Mar-2024 10:40	0874_SD013_240320	✓	✓
ET2401786-006	20-Mar-2024 10:53	0874_SD131_240320	✓	✓
ET2401786-008	20-Mar-2024 11:12	0874_SD016_240320	✓	✓
ET2401786-009	20-Mar-2024 11:13	0874_QC152_240320	✓	✓
ET2401786-011	20-Mar-2024 11:44	0874_SD125_240320	✓	✓
ET2401786-014	20-Mar-2024 12:04	0874_SD123_240320	✓	✓
ET2401786-016	20-Mar-2024 13:02	0874_SD132_240320	✓	✓
ET2401786-018	20-Mar-2024 13:11	0874_SD001_240320	✓	✓
ET2401786-019	20-Mar-2024 13:25	0874_SD010_240320	✓	✓
ET2401786-022	20-Mar-2024 13:56	0874_SD014_230320	✓	✓
ET2401786-024	20-Mar-2024 14:50	0874_SD107_240320	✓	✓
ET2401786-026	20-Mar-2024 15:19	0874_SD208_240320	✓	✓
ET2401786-029	20-Mar-2024 15:39	0874_SD109_240320	✓	✓
ET2401786-030	20-Mar-2024 15:39	0874_QC155_240320	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (30 analytes)
ET2401786-002	20-Mar-2024 10:02	0874_SW102_240320	✓
ET2401786-003	20-Mar-2024 10:39	0874_SW013_240320	✓
ET2401786-005	20-Mar-2024 10:52	0874_SW131_240320	✓
ET2401786-007	20-Mar-2024 11:10	0874_SW016_240320	✓
ET2401786-010	20-Mar-2024 11:43	0874_SW125_240320	✓
ET2401786-012	20-Mar-2024 12:02	0874_SW123_240320	✓
ET2401786-013	20-Mar-2024 12:02	0874_QC153_240320	✓
ET2401786-015	20-Mar-2024 13:12	0874_SW132_240320	✓



WATER - EP231X
PFAS - Full Suite (30 analytes)

ET2401786-017	20-Mar-2024 13:09	0874_SW001_240320	✓
ET2401786-020	20-Mar-2024 13:27	0874_SW010_240320	✓
ET2401786-021	20-Mar-2024 13:50	0874_SW014_240320	✓
ET2401786-023	20-Mar-2024 14:49	0874_SW107_240320	✓
ET2401786-025	20-Mar-2024 15:17	0874_SW208_240320	✓
ET2401786-027	20-Mar-2024 15:36	0874_SW109_240320	✓
ET2401786-028	20-Mar-2024 15:38	0874_QC154_240320	✓
ET2401786-031	20-Mar-2024 16:18	0874_MW227_240320	✓
ET2401786-032	20-Mar-2024 16:35	0874_QC354_240320	✓
ET2401786-033	20-Mar-2024 16:37	0874_QC355_240320	✓
ET2401786-034	19-Mar-2024 08:22	0874_MW244_230319	✓
ET2401786-035	19-Mar-2024 08:23	0874_MW021_240319	✓
ET2401786-036	19-Mar-2024 08:24	0874_MW015_240319	✓
ET2401786-037	19-Mar-2024 08:26	0874_MW138_240319	✓
ET2401786-038	19-Mar-2024 08:27	0874_QC151_240319	✓
ET2401786-039	19-Mar-2024 08:28	0874_MW247_240319	✓
ET2401786-040	19-Mar-2024 08:29	0873_MW038_240319	✓
ET2401786-041	19-Mar-2024 08:31	0874_MW231_240319	✓
ET2401786-042	19-Mar-2024 08:31	0874_MW043_240319	✓
ET2401786-043	19-Mar-2024 08:32	0874_MW139_240319	✓
ET2401786-044	19-Mar-2024 08:33	0874_MW061_240319	✓
ET2401786-045	19-Mar-2024 08:34	0874_MW110_240319	✓
ET2401786-046	19-Mar-2024 08:34	0874_MW009_240319	✓
ET2401786-047	19-Mar-2024 08:35	0874_MW248_240319	✓
ET2401786-048	19-Mar-2024 08:36	0874_MW109_240319	✓
ET2401786-049	19-Mar-2024 08:37	0874_QC353_240319	✓
ET2401786-050	21-Mar-2024 10:35	0874_MW237_240321	✓
ET2401786-051	21-Mar-2024 10:35	0874_QC156_240321	✓
ET2401786-052	21-Mar-2024 11:16	0874_MW239_240321	✓
ET2401786-053	21-Mar-2024 11:30	0874_MW240_240321	✓
ET2401786-054	21-Mar-2024 12:15	0874_MW208_240321	✓
ET2401786-055	21-Mar-2024 12:25	0874_MW471_240321	✓
ET2401786-056	21-Mar-2024 12:35	0874_MW467_240321	✓
ET2401786-057	21-Mar-2024 12:47	0874_MW211_240321	✓
ET2401786-058	21-Mar-2024 13:05	0874_MW212_240321	✓
ET2401786-059	21-Mar-2024 13:21	0874_MW233_240321	✓
ET2401786-060	21-Mar-2024 13:32	0874_MW252_240321	✓
ET2401786-061	21-Mar-2024 13:59	0874_MW213_240321	✓
ET2401786-062	21-Mar-2024 14:58	0874_MW215_240321	✓
ET2401786-063	21-Mar-2024 14:58	0874_QC157_240321	✓
ET2401786-064	21-Mar-2024 15:12	0874_MW207_240321	✓



			WATER - EP231X PFAS - Full Suite (30 analytes)
ET2401786-065	21-Mar-2024 15:13	0874_MW204_240321	✓
ET2401786-066	21-Mar-2024 15:14	0874_QC172_240321	✓
ET2401786-067	21-Mar-2024 15:15	0874_QC173_240321	✓
ET2401786-068	21-Mar-2024 15:43	0874_QC374_240321	✓
ET2401786-069	21-Mar-2024 15:58	0874_QC356_240321	✓
ET2401786-070	22-Mar-2024 09:45	0874_QC504_240322	✓

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



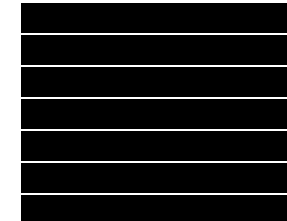
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

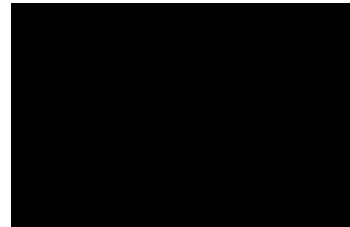
Email
Email
Email
Email
Email
Email
Email



DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



CERTIFICATE OF ANALYSIS

Work Order : **ET2401787**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : LEVEL 5 7-13 TOMLINS STREET
SOUTH TOWNSVILLE 4810
Telephone : ----
Project : QLD_0874_PFASOMP_24
Order number : 60612487_2.3
C-O-C number : 65294
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 16
No. of samples analysed : 16

Page : 1 of 11
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 26-Mar-2024 10:45
Date Analysis Commenced : 02-Apr-2024
Issue Date : 03-Apr-2024 15:35



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]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC



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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW225_240319	0874_QC170_240319	0874_MW221_240319	0874_MW218_240319	0874_MW217_240319
Sampling date / time					19-Mar-2024 10:18	19-Mar-2024 10:18	19-Mar-2024 12:28	19-Mar-2024 13:52	19-Mar-2024 14:14
Compound	CAS Number	LOR	Unit	ET2401787-001	ET2401787-002	ET2401787-003	ET2401787-004	ET2401787-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	0.13	0.08	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.02	0.06	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	0.06	0.15	2.72	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.06	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.15	0.14	0.12	0.64	<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	0.04	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.03	0.36	<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	0.02	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW225_240319	0874_QC170_240319	0874_MW221_240319	0874_MW218_240319	0874_MW217_240319
Sampling date / time				19-Mar-2024 10:18	19-Mar-2024 10:18	19-Mar-2024 12:28	19-Mar-2024 13:52	19-Mar-2024 14:14	
Compound	CAS Number	LOR	Unit	ET2401787-001	ET2401787-002	ET2401787-003	ET2401787-004	ET2401787-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.24	0.23	0.45	4.00	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.21	0.20	0.27	3.36	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.24	0.23	0.43	3.88	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.8	93.0	95.1	95.2	90.3	
13C8-PFOA	----	0.02	%	94.8	95.0	93.4	96.8	96.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW216_240319	0874_QC372_240319	0874_MW267_240320	0874_QC171_240320	0874_MW220_240320
Sampling date / time				19-Mar-2024 14:52	19-Mar-2024 16:22	20-Mar-2024 13:19	20-Mar-2024 13:20	20-Mar-2024 13:36	
Compound	CAS Number	LOR	Unit	ET2401787-006	ET2401787-007	ET2401787-008	ET2401787-009	ET2401787-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.35	<0.01	<0.01	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.32	<0.01	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.35	<0.01	<0.01	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.7	95.6	98.6	96.4	95.2	
13C8-PFOA	----	0.02	%	96.4	98.9	94.4	94.3	97.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW219_240320	0874_MW268_250320	0874_MW263_240320	0874_MW269_240320	0874_QC373_240320
Sampling date / time					20-Mar-2024 13:52	20-Mar-2024 14:27	20-Mar-2024 14:48	20-Mar-2024 15:49	20-Mar-2024 16:22
Compound	CAS Number	LOR	Unit	ET2401787-011	ET2401787-012	ET2401787-013	ET2401787-014	ET2401787-015	
				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	0.07	<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	0.05	0.10	<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	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW219_240320	0874_MW268_250320	0874_MW263_240320	0874_MW269_240320	0874_QC373_240320
Sampling date / time				20-Mar-2024 13:52	20-Mar-2024 14:27	20-Mar-2024 14:48	20-Mar-2024 15:49	20-Mar-2024 16:22	
Compound	CAS Number	LOR	Unit	ET2401787-011	ET2401787-012	ET2401787-013	ET2401787-014	ET2401787-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.05	0.17	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.05	0.17	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.05	0.17	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.7	92.1	100	95.7	97.2	
13C8-PFOA	----	0.02	%	96.0	96.5	97.7	94.9	94.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC505_240322	----	----	----	----
Sampling date / time				22-Mar-2024 10:07	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401787-016	-----	-----	-----	-----	
				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	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_QC505_240322	----	----	----	----
Sampling date / time			22-Mar-2024 10:07	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401787-016	-----	-----	-----	-----
				Result	---	---	---	---
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----
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	%	95.8	----	----	----	----
13C8-PFOA	----	0.02	%	97.3	----	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401787	Page	: 1 of 5
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 26-Mar-2024
Site	: QLD_0874	Issue Date	: 03-Apr-2024
Sampler	: [REDACTED]	No. of samples received	: 16
Order number	: 60612487_2.3	No. of samples analysed	: 16

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

- **NO** Quality Control Sample Frequency Outliers exist.



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) 0874_MW225_240319, 0874_MW221_240319, 0874_MW217_240319, 0874_QC372_240319	0874_QC170_240319, 0874_MW218_240319, 0874_MW216_240319,	19-Mar-2024	02-Apr-2024	15-Sep-2024	✓	02-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_240320, 0874_MW220_240320, 0874_MW268_250320, 0874_MW269_240320,	0874_QC171_240320, 0874_MW219_240320, 0874_MW263_240320, 0874_QC373_240320	20-Mar-2024	02-Apr-2024	16-Sep-2024	✓	02-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC505_240322		22-Mar-2024	02-Apr-2024	18-Sep-2024	✓	02-Apr-2024	18-Sep-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW225_240319, 0874_MW221_240319, 0874_MW217_240319, 0874_QC372_240319	0874_QC170_240319, 0874_MW218_240319, 0874_MW216_240319,	19-Mar-2024	02-Apr-2024	15-Sep-2024	✓	02-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_240320, 0874_MW220_240320, 0874_MW268_250320, 0874_MW269_240320,	0874_QC171_240320, 0874_MW219_240320, 0874_MW263_240320, 0874_QC373_240320	20-Mar-2024	02-Apr-2024	16-Sep-2024	✓	02-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC505_240322		22-Mar-2024	02-Apr-2024	18-Sep-2024	✓	02-Apr-2024	18-Sep-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) 0874_MW225_240319, 0874_MW221_240319, 0874_MW217_240319, 0874_QC372_240319	0874_QC170_240319, 0874_MW218_240319, 0874_MW216_240319,	19-Mar-2024	02-Apr-2024	15-Sep-2024	✓	02-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_240320, 0874_MW220_240320, 0874_MW268_250320, 0874_MW269_240320,	0874_QC171_240320, 0874_MW219_240320, 0874_MW263_240320, 0874_QC373_240320	20-Mar-2024	02-Apr-2024	16-Sep-2024	✓	02-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC505_240322		22-Mar-2024	02-Apr-2024	18-Sep-2024	✓	02-Apr-2024	18-Sep-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW225_240319, 0874_MW221_240319, 0874_MW217_240319, 0874_QC372_240319	0874_QC170_240319, 0874_MW218_240319, 0874_MW216_240319,	19-Mar-2024	02-Apr-2024	15-Sep-2024	✓	02-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_240320, 0874_MW220_240320, 0874_MW268_250320, 0874_MW269_240320,	0874_QC171_240320, 0874_MW219_240320, 0874_MW263_240320, 0874_QC373_240320	20-Mar-2024	02-Apr-2024	16-Sep-2024	✓	02-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC505_240322		22-Mar-2024	02-Apr-2024	18-Sep-2024	✓	02-Apr-2024	18-Sep-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW225_240319, 0874_MW221_240319, 0874_MW217_240319, 0874_QC372_240319	0874_QC170_240319, 0874_MW218_240319, 0874_MW216_240319,	19-Mar-2024	02-Apr-2024	15-Sep-2024	✓	02-Apr-2024	15-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW267_240320, 0874_MW220_240320, 0874_MW268_250320, 0874_MW269_240320,	0874_QC171_240320, 0874_MW219_240320, 0874_MW263_240320, 0874_QC373_240320	20-Mar-2024	02-Apr-2024	16-Sep-2024	✓	02-Apr-2024	16-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_QC505_240322		22-Mar-2024	02-Apr-2024	18-Sep-2024	✓	02-Apr-2024	18-Sep-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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
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



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.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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 5.4, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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.



QUALITY CONTROL REPORT

Work Order	: ET2401787	Page	: 1 of 7
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 26-Mar-2024
Order number	: 60612487_2.3	Date Analysis Commenced	: 02-Apr-2024
C-O-C number	: 65294	Issue Date	: 03-Apr-2024
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 16		
No. of samples analysed	: 16		



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]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC



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: 5699329)									
ET2401787-003	0874_MW221_240319	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.15	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	0.13	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.13	0.13	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
ET2401787-011	0874_MW219_240320	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: 5699329)									
ET2401787-003	0874_MW221_240319	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	0.03	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	<0.02	<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



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: 5699329) - continued									
ET2401787-003	0874_MW221_240319	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
ET2401787-011	0874_MW219_240320	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 (PFTTrDA)	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: 5699329)							
ET2401787-003	0874_MW221_240319	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
ET2401787-011	0874_MW219_240320	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



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: 5699329)									
ET2401787-003	0874_MW221_240319	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
ET2401787-011	0874_MW219_240320	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: 5699329)									
ET2401787-003	0874_MW221_240319	EP231X: Sum of PFAS	----	0.01	µg/L	0.45	0.47	4.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.27	0.28	3.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.43	0.45	4.5	0% - 20%
ET2401787-011	0874_MW219_240320	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5699329)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	80.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	78.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	81.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	81.9	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	81.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	73.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5699329)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	76.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	80.2	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	79.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	79.5	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	79.1	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	78.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	90.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.0	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	92.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5699329)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	82.4	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	97.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	74.8	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.9	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	83.5	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	71.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5699329)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5699329) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	78.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	86.1	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	82.5	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	76.8	70.0	130
EP231P: PFAS Sums (QCLot: 5699329)								
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	Spike Recovery (%)	Acceptable Limits (%)	
				MS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5699329)							
ET2401787-014	0874_MW269_240320	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	85.3	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	87.2	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	90.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	87.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	84.9	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	76.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5699329)							
ET2401787-014	0874_MW269_240320	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	74.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	80.9	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	82.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	82.7	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	86.7	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	87.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	79.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	106	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	98.4	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5699329)					



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5699329) - continued							
ET2401787-014	0874_MW269_240320	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	83.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	86.5	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	81.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	75.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	86.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	82.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5699329)							
ET2401787-014	0874_MW269_240320	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	87.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	96.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	92.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	71.6	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2401787

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: LEVEL 5 7-13 TOMLINS STREET SOUTH TOWNSVILLE 4810	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 3
Order number	: 60612487_2.3	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 65294	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 26-Mar-2024 10:45	Issue Date	: 29-Mar-2024
Client Requested Due Date	: 04-Apr-2024	Scheduled Reporting Date	: 04-Apr-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 3	Temperature	: 10.8°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 16 / 16

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.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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 (30 analytes)
ET2401787-001	19-Mar-2024 10:18	0874_MW225_240319	✓
ET2401787-002	19-Mar-2024 10:18	0874_QC170_240319	✓
ET2401787-003	19-Mar-2024 12:28	0874_MW221_240319	✓
ET2401787-004	19-Mar-2024 13:52	0874_MW218_240319	✓
ET2401787-005	19-Mar-2024 14:14	0874_MW217_240319	✓
ET2401787-006	19-Mar-2024 14:52	0874_MW216_240319	✓
ET2401787-007	19-Mar-2024 16:22	0874_QC372_240319	✓
ET2401787-008	20-Mar-2024 13:19	0874_MW267_240320	✓
ET2401787-009	20-Mar-2024 13:20	0874_QC171_240320	✓
ET2401787-010	20-Mar-2024 13:36	0874_MW220_240320	✓
ET2401787-011	20-Mar-2024 13:52	0874_MW219_240320	✓
ET2401787-012	20-Mar-2024 14:27	0874_MW268_250320	✓
ET2401787-013	20-Mar-2024 14:48	0874_MW263_240320	✓
ET2401787-014	20-Mar-2024 15:49	0874_MW269_240320	✓
ET2401787-015	20-Mar-2024 16:22	0874_QC373_240320	✓
ET2401787-016	22-Mar-2024 10:07	0874_QC505_240322	✓

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



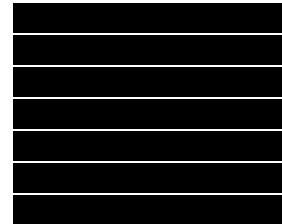
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids



CERTIFICATE OF ANALYSIS

Work Order : **ET2401820**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET
MELBOURNE VIC, AUSTRALIA 3000
Telephone : ----
Project : QLD_0874_PFASOMP_24
Order number : 60612487_2.1
C-O-C number : 65428
Sampler : [REDACTED] [REDACTED] [REDACTED]
Site : QLD_0874
Quote number : EB23AECOMAU0017
No. of samples received : 17
No. of samples analysed : 16

Page : 1 of 11
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 27-Mar-2024 09:34
Date Analysis Commenced : 03-Apr-2024
Issue Date : 05-Apr-2024 17:56



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	Melbourne Organics, Springvale, VIC



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.

- All analysis will be conducted by ALS Melbourne, NATA accreditation no. 825, site no 13778
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- 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.
- 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, PFTTrDA 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW243_240322	0874_QC158_240322	0874_MW265_240322	0874_MW201_240322	0874_MW202_240322
Sampling date / time				22-Mar-2024 10:21	22-Mar-2024 10:22	22-Mar-2024 10:49	22-Mar-2024 13:06	22-Mar-2024 13:20	
Compound	CAS Number	LOR	Unit	ET2401820-001	ET2401820-002	ET2401820-004	ET2401820-005	ET2401820-006	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
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	0.13	0.13	<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	275	277	1.98	0.04	0.02	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	217	219	1.47	0.04	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	259	262	1.85	0.04	0.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.7	99.1	99.5	101	93.3	
13C8-PFOA	----	0.02	%	90.0	89.6	117	105	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW203_240322	0874_MW261_240322	0874_MW266_240322	0874_MW470_240322	0874_QC357_240322
Sampling date / time					22-Mar-2024 13:32	22-Mar-2024 14:30	22-Mar-2024 14:32	22-Mar-2024 15:12	22-Mar-2024 15:16
Compound	CAS Number	LOR	Unit	ET2401820-007	ET2401820-008	ET2401820-009	ET2401820-010	ET2401820-011	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<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	<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	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	0.01	0.47	0.11	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.01	0.47	0.11	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.01	0.47	0.11	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.2	96.1	106	92.9	96.5	
13C8-PFOA	----	0.02	%	95.2	102	94.1	107	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC358_240322	0874_MW206_240325	0874_MW246_240325	0874_MW245_240325	0874_QC359_240325
Sampling date / time					22-Mar-2024 14:32	25-Mar-2024 12:39	25-Mar-2024 13:53	25-Mar-2024 13:55	25-Mar-2024 13:56
Compound	CAS Number	LOR	Unit	ET2401820-012	ET2401820-013	ET2401820-014	ET2401820-015	ET2401820-016	ET2401820-016
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<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	<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	<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	<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	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	0.09	<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	0.09	<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	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	5.60	0.39	74.8	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	2.86	0.31	43.4	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	5.08	0.39	67.5	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	101	91.0	91.5	102	101
13C8-PFOA	----	0.02	%	97.5	101	97.5	90.3	101	101



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC507_240325	----	----	----	----
Sampling date / time				25-Mar-2024 16:20	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401820-017	-----	-----	-----	-----	
				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	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC507_240325	----	----	----	----
Sampling date / time				25-Mar-2024 16:20	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401820-017	-----	-----	-----	-----	
				Result	---	---	---	---	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----	
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	%	105	----	----	----	----	
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

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401820	Page	: 1 of 5
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 27-Mar-2024
Site	: QLD_0874	Issue Date	: 05-Apr-2024
Sampler	: [REDACTED]	No. of samples received	: 17
Order number	: 60612487_2.1	No. of samples analysed	: 16

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

- **NO** Quality Control Sample Frequency Outliers exist.



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) 0874_MW243_240322, 0874_MW265_240322, 0874_MW202_240322, 0874_MW261_240322, 0874_MW470_240322, 0874_QC358_240322	0874_QC158_240322, 0874_MW201_240322, 0874_MW203_240322, 0874_MW266_240322, 0874_QC357_240322	22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	05-Apr-2024	18-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW206_240325, 0874_MW245_240325, 0874_QC507_240325	0874_MW246_240325, 0874_QC359_240325,	25-Mar-2024	04-Apr-2024	21-Sep-2024	✓	05-Apr-2024	21-Sep-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW243_240322, 0874_MW265_240322, 0874_MW202_240322, 0874_MW261_240322, 0874_MW470_240322, 0874_QC358_240322	0874_QC158_240322, 0874_MW201_240322, 0874_MW203_240322, 0874_MW266_240322, 0874_QC357_240322,	22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	05-Apr-2024	18-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW206_240325, 0874_MW245_240325, 0874_QC507_240325	0874_MW246_240325, 0874_QC359_240325,	25-Mar-2024	04-Apr-2024	21-Sep-2024	✓	05-Apr-2024	21-Sep-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) 0874_MW243_240322, 0874_MW265_240322, 0874_MW202_240322, 0874_MW261_240322, 0874_MW470_240322, 0874_QC358_240322	0874_QC158_240322, 0874_MW201_240322, 0874_MW203_240322, 0874_MW266_240322, 0874_QC357_240322	22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	05-Apr-2024	18-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW206_240325, 0874_MW245_240325, 0874_QC507_240325	0874_MW246_240325, 0874_QC359_240325	25-Mar-2024	04-Apr-2024	21-Sep-2024	✓	05-Apr-2024	21-Sep-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW243_240322, 0874_MW265_240322, 0874_MW202_240322, 0874_MW261_240322, 0874_MW470_240322, 0874_QC358_240322	0874_QC158_240322, 0874_MW201_240322, 0874_MW203_240322, 0874_MW266_240322, 0874_QC357_240322	22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	05-Apr-2024	18-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW206_240325, 0874_MW245_240325, 0874_QC507_240325	0874_MW246_240325, 0874_QC359_240325	25-Mar-2024	04-Apr-2024	21-Sep-2024	✓	05-Apr-2024	21-Sep-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW243_240322, 0874_MW265_240322, 0874_MW202_240322, 0874_MW261_240322, 0874_MW470_240322, 0874_QC358_240322	0874_QC158_240322, 0874_MW201_240322, 0874_MW203_240322, 0874_MW266_240322, 0874_QC357_240322	22-Mar-2024	04-Apr-2024	18-Sep-2024	✓	05-Apr-2024	18-Sep-2024	✓
HDPE (no PTFE) (EP231X) 0874_MW206_240325, 0874_MW245_240325, 0874_QC507_240325	0874_MW246_240325, 0874_QC359_240325	25-Mar-2024	04-Apr-2024	21-Sep-2024	✓	05-Apr-2024	21-Sep-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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
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



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.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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 5.4, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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.



QUALITY CONTROL REPORT

Work Order	: ET2401820	Page	: 1 of 7
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3000	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 27-Mar-2024
Order number	: 60612487_2.1	Date Analysis Commenced	: 03-Apr-2024
C-O-C number	: 65428	Issue Date	: 05-Apr-2024
Sampler	: [REDACTED]		
Site	: QLD_0874		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 17		
No. of samples analysed	: 16		



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	Melbourne Organics, Springvale, VIC



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

* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5703057)									
ET2401820-005	0874_MW201_240322	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	0.03	0.07	68.0	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
ET2401820-015	0874_MW245_240325	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01 (0.02)*	µg/L	28.0	28.2	0.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01 (0.02)*	µg/L	15.4	16.4	6.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	4.09	4.09	0.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	5.43	5.34	1.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.71	1.74	1.6	0% - 20%
		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: 5703057)									
ET2401820-005	0874_MW201_240322	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



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: 5703057) - continued									
ET2401820-005	0874_MW201_240322	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
ET2401820-015	0874_MW245_240325	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.47	2.41	2.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	2.48	2.36	4.6	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	11.7	11.8	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	2.05	2.12	3.3	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.07	0.06	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.05	0.05	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	1.1	1.0	0.0	0% - 50%
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5703057)									
ET2401820-005	0874_MW201_240322	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
ET2401820-015	0874_MW245_240325	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



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: 5703057) - continued									
ET2401820-015	0874_MW245_240325	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: 5703057)									
ET2401820-005	0874_MW201_240322	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
ET2401820-015	0874_MW245_240325	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	0.09	0.09	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.09	0.10	15.2	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
EP231P: PFAS Sums (QC Lot: 5703057)									
ET2401820-005	0874_MW201_240322	EP231X: Sum of PFAS	----	0.01	µg/L	0.04	0.08	66.7	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.08	66.7	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.08	66.7	No Limit
ET2401820-015	0874_MW245_240325	EP231X: Sum of PFAS	----	0.01 (0.02)*	µg/L	74.8	75.8	1.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01 (0.02)*	µg/L	43.4	44.6	2.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01 (0.02)*	µg/L	67.5	68.6	1.6	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: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5703057)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	90.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	88.7	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	89.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	98.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	91.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	87.1	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5703057)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.4	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.5	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	94.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.9	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	90.5	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.0	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	83.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	80.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	86.9	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703057)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.1	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	87.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	82.7	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	84.0	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	73.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703057)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703057) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	85.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	90.8	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	93.5	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	71.5	70.0	130
EP231P: PFAS Sums (QCLot: 5703057)								
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	Spike Recovery (%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5703057)							
ET2401820-007	0874_MW203_240322	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	98.8	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	81.2	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	83.6	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	87.3	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	92.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5703057)							
ET2401820-007	0874_MW203_240322	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	79.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	91.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	81.7	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	91.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	90.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.3	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	80.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.7	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	72.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	82.5	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703057)					



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5703057) - continued							
ET2401820-007	0874_MW203_240322	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	84.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	84.5	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	75.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	74.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	78.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	72.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5703057)							
ET2401820-007	0874_MW203_240322	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	84.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	111	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	85.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	70.3	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2401820

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3000	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 65428	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 27-Mar-2024 09:34	Issue Date	: 02-Apr-2024
Client Requested Due Date	: 05-Apr-2024	Scheduled Reporting Date	: 05-Apr-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 4.3 - Ice present
Receipt Detail	:	No. of samples received / analysed	: 17 / 16

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
- All analysis will be conducted by ALS Melbourne, NATA accreditation no. 825, site no 13778
- **2/04/2024: SRN has been resent to acknowledge updated Site Name. For any further information regarding these adjustments please contact client services at [REDACTED]**
- 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.
- 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	(On Hold) SOIL No analysis requested
ET2401820-003	22-Mar-2024 10:32	0874_SD126_240322	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (30 analytes)
ET2401820-001	22-Mar-2024 10:21	0874_MW243_240322	✓
ET2401820-002	22-Mar-2024 10:22	0874_QC158_240322	✓
ET2401820-004	22-Mar-2024 10:49	0874_MW265_240322	✓
ET2401820-005	22-Mar-2024 13:06	0874_MW201_240322	✓
ET2401820-006	22-Mar-2024 13:20	0874_MW202_240322	✓
ET2401820-007	22-Mar-2024 13:32	0874_MW203_240322	✓
ET2401820-008	22-Mar-2024 14:30	0874_MW261_240322	✓
ET2401820-009	22-Mar-2024 14:32	0874_MW266_240322	✓
ET2401820-010	22-Mar-2024 15:12	0874_MW470_240322	✓
ET2401820-011	22-Mar-2024 15:16	0874_QC357_240322	✓
ET2401820-012	22-Mar-2024 14:32	0874_QC358_240322	✓
ET2401820-013	25-Mar-2024 12:39	0874_MW206_240325	✓
ET2401820-014	25-Mar-2024 13:53	0874_MW246_240325	✓
ET2401820-015	25-Mar-2024 13:55	0874_MW245_240325	✓
ET2401820-016	25-Mar-2024 13:56	0874_QC359_240325	✓
ET2401820-017	25-Mar-2024 16:20	0874_QC507_240325	✓

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



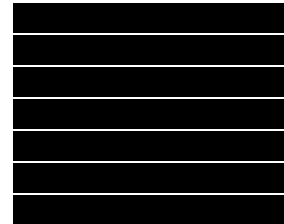
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

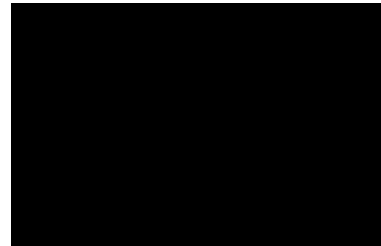
Email
Email
Email
Email
Email
Email
Email



DERP reports

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums



CERTIFICATE OF ANALYSIS

Work Order : **ET2401926**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : MS [REDACTED]
Address : PO BOX 5175
TOWNSVILLE QLD, AUSTRALIA 4870
Telephone : ----
Project : QLD_0874_PFASOMP_24
Order number : 60612487_2.1
C-O-C number : 65670
Sampler : [REDACTED] [REDACTED]
Site : QLD_0874_PFASOMP_24
Quote number : EB23AECOMAU0017
No. of samples received : 4
No. of samples analysed : 4

Page : 1 of 7
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone : [REDACTED]
Date Samples Received : 03-Apr-2024 09:07
Date Analysis Commenced : 05-Apr-2024
Issue Date : 09-Apr-2024 16:15



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
Senior Organic Chemist

Melbourne Inorganics, Springvale, VIC
Melbourne Organics, Springvale, VIC



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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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.
- 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 or as per tables in USEPA 1633 where listed. 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 and also conform to QSM 5.4 (US DoD) requirements.
- 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 or as per USEPA 1633 limits where LISTED. 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 and also conform to QSM 5.4 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD126_240328	0874_SD121_240328	----	----	----
Sampling date / time				28-Mar-2024 09:55	28-Mar-2024 10:53	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401926-002	ET2401926-004	-----	-----	-----	
				Result	Result	----	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	40.5	46.8	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0006	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.0005	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0040	0.0053	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0005	0.0002	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0625	0.0420	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0009	0.0007	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	<0.0002	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0005	0.0004	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	0.0003	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD126_240328	0874_SD121_240328	----	----	----
Sampling date / time				28-Mar-2024 09:55	28-Mar-2024 10:53	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401926-002	ET2401926-004	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<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	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0699	0.0511	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0665	0.0473	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0676	0.0486	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	122	132	----	----	----	
13C8-PFOA	----	0.0002	%	92.2	87.2	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW126_240328	0874_SW121_240328	----	----	----
Sampling date / time				28-Mar-2024 09:52	28-Mar-2024 10:50	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401926-001	ET2401926-003	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.32	0.40	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.30	0.32	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.74	1.79	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.04	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.59	0.53	----	----	----	
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	0.16	0.12	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.61	0.38	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.04	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.04	----	----	----	
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	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW126_240328	0874_SW121_240328	----	----	----
Sampling date / time				28-Mar-2024 09:52	28-Mar-2024 10:50	----	----	----	
Compound	CAS Number	LOR	Unit	ET2401926-001	ET2401926-003	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	
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	6.09	3.76	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.33	2.32	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.69	3.40	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.9	98.7	----	----	----	
13C8-PFOA	----	0.02	%	96.4	96.8	----	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2401926	Page	: 1 of 5
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 03-Apr-2024
Site	: QLD_0874_PFASOMP_24	Issue Date	: 09-Apr-2024
Sampler	: [REDACTED]	No. of samples received	: 4
Order number	: 60612487_2.1	No. of samples analysed	: 4

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: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2410433--002	Anonymous	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	Method	Count		Rate (%)		Quality Control Specification
		QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	20	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.

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) 0874_SD126_240328,	0874_SD121_240328	28-Mar-2024	----	----	----	05-Apr-2024	11-Apr-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD126_240328,	0874_SD121_240328	28-Mar-2024	08-Apr-2024	24-Sep-2024	✓	09-Apr-2024	18-May-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD126_240328,	0874_SD121_240328	28-Mar-2024	08-Apr-2024	24-Sep-2024	✓	09-Apr-2024	18-May-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD126_240328,	0874_SD121_240328	28-Mar-2024	08-Apr-2024	24-Sep-2024	✓	09-Apr-2024	18-May-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD126_240328,	0874_SD121_240328	28-Mar-2024	08-Apr-2024	24-Sep-2024	✓	09-Apr-2024	18-May-2024	✓



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	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD126_240328,	0874_SD121_240328	28-Mar-2024	08-Apr-2024	24-Sep-2024	✓	09-Apr-2024	18-May-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	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW126_240328,	0874_SW121_240328	28-Mar-2024	07-Apr-2024	24-Sep-2024	✓	09-Apr-2024	24-Sep-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW126_240328,	0874_SW121_240328	28-Mar-2024	07-Apr-2024	24-Sep-2024	✓	09-Apr-2024	24-Sep-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW126_240328,	0874_SW121_240328	28-Mar-2024	07-Apr-2024	24-Sep-2024	✓	09-Apr-2024	24-Sep-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW126_240328,	0874_SW121_240328	28-Mar-2024	07-Apr-2024	24-Sep-2024	✓	09-Apr-2024	24-Sep-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW126_240328,	0874_SW121_240328	28-Mar-2024	07-Apr-2024	24-Sep-2024	✓	09-Apr-2024	24-Sep-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: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	7.14	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	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	0	20	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 5.4, 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 5.4, 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.



QUALITY CONTROL REPORT

Work Order	: ET2401926	Page	: 1 of 10
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5175 TOWNSVILLE QLD, AUSTRALIA 4870	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
Telephone	: ----	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Date Samples Received	: 03-Apr-2024
Order number	: 60612487_2.1	Date Analysis Commenced	: 05-Apr-2024
C-O-C number	: 65670	Issue Date	: 09-Apr-2024
Sampler	: [REDACTED]		
Site	: QLD_0874_PFASOMP_24		
Quote number	: EB23AECOMAU0017		
No. of samples received	: 4		
No. of samples analysed	: 4		



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	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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
 * = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5706464)									
EM2405119-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	10.6	10.6	0.0	0% - 50%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5710187)									
EB2410433-001	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	0.0004	0.0004	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	0.0424	0.0419	1.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EM2405133-054	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	0.0003	0.0004	0.0	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: 5710187)									
EB2410433-001	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	0.0015	0.0017	15.1	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0004	0.0005	28.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0006	0.0006	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	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: 5710187) - continued									
EB2410433-001	Anonymous	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 (PFTTrDA)	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
EM2405133-054	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 (PFTTrDA)	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: 5710187)									
EB2410433-001	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
EM2405133-054	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



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 (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5710187) - continued									
EM2405133-054	Anonymous	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5710187)									
EB2410433-001	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
EM2405133-054	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
EP231P: PFAS Sums (QC Lot: 5710187)									
EB2410433-001	Anonymous	EP231X: Sum of PFAS	----	0.0002	mg/kg	0.0455	0.0454	0.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0428	0.0423	1.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0453	0.0451	0.4	0% - 20%
EM2405133-054	Anonymous	EP231X: Sum of PFAS	----	0.0002	mg/kg	0.0003	0.0004	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0003	0.0004	28.6	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0003	0.0004	28.6	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: 5709880)									
ET2401926-001	0874_SW126_240328	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.74	1.73	0.6	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.59	2.43	6.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.32	0.30	7.1	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.30	0.28	5.9	0% - 50%



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: 5709880) - continued									
ET2401926-001	0874_SW126_240328	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.09	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: 5709880)									
ET2401926-001	0874_SW126_240328	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.11	0.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.16	0.16	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.61	0.61	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.06	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: 5709880)									
ET2401926-001	0874_SW126_240328	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: 5709880)									
ET2401926-001	0874_SW126_240328	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: 5709880)									
ET2401926-001	0874_SW126_240328	EP231X: Sum of PFAS	----	0.01	µg/L	6.09	5.87	3.7	0% - 20%

Page : 6 of 10
 Work Order : ET2401926
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_24



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 (%)
EP231P: PFAS Sums (QC Lot: 5709880) - continued									
ET2401926-001	0874_SW126_240328	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.33	4.16	4.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	5.69	5.50	3.4	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: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5710187)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00111 mg/kg	99.0	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	87.0	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00114 mg/kg	90.3	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	97.9	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	105	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00121 mg/kg	101	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5710187)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	94.0	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.1	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.6	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.5	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100.0	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.0	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.4	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	75.7	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.5	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.3	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	109	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5710187)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.1	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	114	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	100	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	83.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	96.9	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.8	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5710187)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5710187) - continued									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	106	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00119 mg/kg	95.3	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	109	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00121 mg/kg	85.8	70.0	130	
EP231P: PFAS Sums (QCLot: 5710187)									
EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5709880)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	86.1	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	96.1	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	95.9	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	96.1	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	100	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5709880)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.3	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	97.3	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.7	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.7	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.8	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	93.5	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	82.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.5	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	87.3	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	78.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	92.0	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5709880)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	86.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	89.9	68.0	141	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5709880) - continued								
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	88.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	70.2	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.9	70.0	130
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	85.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5709880)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	96.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	101	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	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	85.2	70.0	130
EP231P: PFAS Sums (QCLot: 5709880)								
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	Spike Recovery (%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5710187)							
EB2410433-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00111 mg/kg	102	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00118 mg/kg	81.9	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00114 mg/kg	67.5	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	87.7	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	0.00121 mg/kg	103	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5710187)							
EB2410433-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	86.6	71.0	135



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: 5710187) - continued							
EB2410433-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	93.4	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	75.5	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	91.5	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	93.8	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	92.3	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	84.6	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	75.4	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	101	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	91.4	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	101	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5710187)							
EB2410433-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	95.3	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	99.5	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	73.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	86.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	93.2	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	81.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5710187)							
EB2410433-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	100	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00119 mg/kg	91.5	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	99.7	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00121 mg/kg	70.2	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2401926

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: MS [REDACTED]	Contact	: [REDACTED]
Address	: PO BOX 5175 TOWNSVILLE QLD, AUSTRALIA 4870	Address	: 13 Carlton Street, Kirwan Townsville QLD Australia 4815
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP_24	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: EB2023AECOMAU0017 (EB23AECOMAU0017)
C-O-C number	: 65670	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874_PFASOMP_24		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 03-Apr-2024 09:07	Issue Date	: 05-Apr-2024
Client Requested Due Date	: 10-Apr-2024	Scheduled Reporting Date	: 10-Apr-2024

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 6.5°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 4 / 4

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
- **05/04/2024: SRN has been resent to acknowledge an update to the reports assigned to [REDACTED] as per email request from [REDACTED] (04/04/2024).**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- 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.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- 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 (30 analytes)
ET2401926-002	28-Mar-2024 09:55	0874_SD126_240328	✓	✓
ET2401926-004	28-Mar-2024 10:53	0874_SD121_240328	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (30 analytes)
ET2401926-001	28-Mar-2024 09:52	0874_SW126_240328	✓
ET2401926-003	28-Mar-2024 10:50	0874_SW121_240328	✓

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



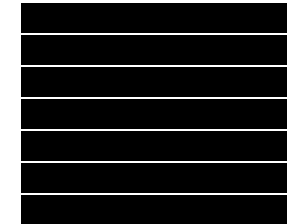
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

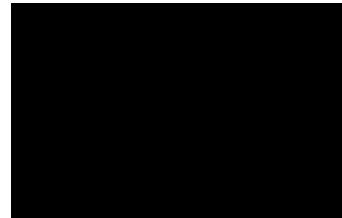
Email
Email
Email
Email
Email
Email
Email



DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email
Email
Email
Email
Email
Email
Email



Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids

AECOM Aust Pty Ltd TSV
 Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810



NATA Accredited
 Accreditation Number 1261
 Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: XXXXXXXXXX

Report **1079816-W-V4**
 Project name
 Project ID **QLD_0874_PFASOMP_24**
 Received Date **Mar 20, 2024**

Client Sample ID			0874_QC200_2 40311	0874_QC202_2 40315	0874_QC250_2 40314	0874_QC503_2 40319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ma0047089	TW24- Ma0047091	TW24- Ma0047093	TW24- Ma0047094
Date Sampled			Mar 11, 2024	Mar 15, 2024	Mar 14, 2024	Mar 19, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.60	< 0.05	0.29	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.92	0.03	0.28	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	4.0	0.13	1.0	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	0.54	0.02	0.18	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{NO9} 1.3	^{NO9} 0.03	^{NO9} 0.36	^{NO9} < 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	0.02	0.02	0.02	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	73	58	54	75
13C5-PFPeA (surr.)	1	%	63	82	87	123
13C5-PFHxA (surr.)	1	%	94	77	98	67
13C4-PFHpA (surr.)	1	%	74	78	63	83
13C8-PFOA (surr.)	1	%	82	64	110	62
13C5-PFNA (surr.)	1	%	109	57	93	56
13C6-PFDA (surr.)	1	%	59	55	26	48
13C2-PFUnDA (surr.)	1	%	99	60	41	41
13C2-PFDoDA (surr.)	1	%	97	57	43	39
13C2-PFTeDA (surr.)	1	%	138	31	30	21
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	87	104	71	48
D3-N-MeFOSA (surr.)	1	%	49	INT	169	71

Client Sample ID			0874_QC200_2 40311	0874_QC202_2 40315	0874_QC250_2 40314	0874_QC503_2 40319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ma0047089	TW24- Ma0047091	TW24- Ma0047093	TW24- Ma0047094
Date Sampled			Mar 11, 2024	Mar 15, 2024	Mar 14, 2024	Mar 19, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSA (surr.)	1	%	49	INT	171	77
D7-N-MeFOSE (surr.)	1	%	76	137	83	59
D9-N-EtFOSE (surr.)	1	%	59	131	81	58
D5-N-EtFOSAA (surr.)	1	%	103	47	41	34
D3-N-MeFOSAA (surr.)	1	%	87	50	44	38
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	1.8	0.06	0.73	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	0.06	< 0.01	0.07	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.35	0.01	0.22	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 1.7	^{N09} 0.05	^{N09} 0.71	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 10	^{N09} 0.38	^{N09} 5.4	< 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.48	< 0.01	^{N09} 0.54	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 13	^{N09} 0.33	^{N09} 18	< 0.01
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	90	102	69	81
18O2-PFHxS (surr.)	1	%	78	75	83	66
13C8-PFOS (surr.)	1	%	61	73	69	59
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	138	122	76	64
13C2-6:2 FTSA (surr.)	1	%	117	131	77	52
13C2-8:2 FTSA (surr.)	1	%	79	63	44	44
13C2-10:2 FTSA (surr.)	1	%	108	99	43	34
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	23	0.71	23.4	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	14.3	0.36	18.36	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	24.3	0.74	23.76	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	32.16	0.98	26.24	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	34.77	1.06	27.8	< 0.1

Client Sample ID			0874_QC206_2 40319	0874_QC204_2 40319	0874_QC251_2 40319	0874_QC270_2 40319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ma0047096	TW24- Ma0047097	TW24- Ma0047098	TW24- Ma0047099
Date Sampled			Mar 19, 2024	Mar 19, 2024	Mar 19, 2024	Mar 19, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.07	< 0.05	0.16	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.07	< 0.01	0.26	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	0.35	< 0.01	1.1	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	0.03	< 0.01	0.09	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{N09} 0.05	< 0.01	^{N09} 0.09	^{N09} < 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	0.06	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	147	59	66	61
13C5-PFPeA (surr.)	1	%	55	108	81	91
13C5-PFHxA (surr.)	1	%	58	77	124	69
13C4-PFHpA (surr.)	1	%	59	77	83	70
13C8-PFOA (surr.)	1	%	55	58	69	57
13C5-PFNA (surr.)	1	%	58	50	69	48
13C6-PFDA (surr.)	1	%	37	36	38	37
13C2-PFUnDA (surr.)	1	%	42	36	42	39
13C2-PFDoDA (surr.)	1	%	42	43	44	38
13C2-PFTTeDA (surr.)	1	%	26	24	33	35
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	72	76	86	85
D3-N-MeFOSA (surr.)	1	%	144	197	113	115
D5-N-EtFOSA (surr.)	1	%	178	185	136	119
D7-N-MeFOSE (surr.)	1	%	78	87	102	81
D9-N-EtFOSE (surr.)	1	%	95	89	103	71
D5-N-EtFOSAA (surr.)	1	%	43	42	48	37
D3-N-MeFOSAA (surr.)	1	%	44	45	46	40
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.18	0.01	0.69	0.04
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	0.02	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.05	< 0.01	0.27	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 0.15	< 0.01	^{N09} 0.43	^{N09} < 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 1.1	^{N09} 0.02	^{N09} 1.3	^{N09} 0.08
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.05	< 0.01	^{N09} 0.05	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 0.63	^{N09} < 0.01	^{N09} 3.6	^{N09} 0.17
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			0874_QC206_2 40319	0874_QC204_2 40319	0874_QC251_2 40319	0874_QC270_2 40319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW24- Ma0047096	TW24- Ma0047097	TW24- Ma0047098	TW24- Ma0047099
Date Sampled			Mar 19, 2024	Mar 19, 2024	Mar 19, 2024	Mar 19, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFASs)						
13C3-PFBS (surr.)	1	%	77	98	89	88
18O2-PFHxS (surr.)	1	%	61	77	101	61
13C8-PFOS (surr.)	1	%	53	62	73	52
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	110	92	135	85
13C2-6:2 FTSA (surr.)	1	%	127	78	70	78
13C2-8:2 FTSA (surr.)	1	%	54	44	52	38
13C2-10:2 FTSA (surr.)	1	%	45	38	43	44
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	1.73	0.02	4.9	0.25
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.68	< 0.01	3.69	0.17
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	1.78	0.02	4.99	0.25
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	2.48	< 0.05	7.29	0.29
Sum of PFASs (n=30)*	0.1	ug/L	2.73	< 0.1	8.12	0.29

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 16, 2024	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Mar 24, 2024	28 Days
Perfluoroalkyl sulfonic acids (PFSA) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Mar 24, 2024	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Mar 24, 2024	28 Days

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Mar 20, 2024 9:30 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1079816	Due:	Mar 27, 2024
		Phone:	██████	Priority:	5 Day
		Fax:	██████	Contact Name:	██████
Project Name:					
Project ID:	QLD_0874_PFASOMP_24				
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC200_240311	Mar 11, 2024		Water	TW24-Ma0047089		X
2	0874_QC201_240311	Mar 11, 2024		Soil	TW24-Ma0047090	X	X
3	0874_QC202_240315	Mar 15, 2024		Water	TW24-Ma0047091		X
4	0874_QC203_240315	Mar 15, 2024		Soil	TW24-Ma0047092	X	X
5	0874_QC250_240314	Mar 14, 2024		Water	TW24-Ma0047093		X
6	0874_QC503_240319	Mar 19, 2024		Water	TW24-Ma0047094		X
7	0874_QC205_240319	Mar 19, 2024		Soil	TW24-Ma0047095	X	X
8	0874_QC206_240319	Mar 19, 2024		Water	TW24-Ma0047096		X

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Mar 20, 2024 9:30 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1079816	Due:	Mar 27, 2024
		Phone:	██████	Priority:	5 Day
		Fax:	██████	Contact Name:	██████
Project Name:					
Project ID:	QLD_0874_PFASOMP_24				
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC204_240319	Mar 19, 2024		Water	TW24-Ma0047097		X
10	0874_QC251_240319	Mar 19, 2024		Water	TW24-Ma0047098		X
11	0874_QC270_240319	Mar 19, 2024		Water	TW24-Ma0047099		X
Test Counts						3	11

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05		0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01		0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01		0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01		0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotetradecanoic acid (PFTTeDA)	ug/L	< 0.01		0.01	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05		0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05		0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05		0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05		0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05		0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05		0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05		0.05	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01		0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01		0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01		0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01		0.01	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05		0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01		0.01	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	106		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	97		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	111		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	101		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	107		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	112		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	119		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	115		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	112		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	147		50-150	Pass	
Perfluorotetradecanoic acid (PFTTeDA)	%	101		50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	73			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	85			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	130			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	95			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	122			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	111			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	128			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	84			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	128			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	96			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	111			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	94			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	95			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	107			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	89			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	116			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	128			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	128			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	138			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
				Result 1				
Perfluorobutanoic acid (PFBA)	TW24-Ma0047089	CP	%	101		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW24-Ma0047089	CP	%	98		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW24-Ma0047089	CP	%	147		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	TW24-Ma0047089	CP	%	120		50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW24-Ma0047089	CP	%	117		50-150	Pass	
Perfluorononanoic acid (PFNA)	TW24-Ma0047089	CP	%	99		50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW24-Ma0047089	CP	%	88		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW24-Ma0047089	CP	%	93		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW24-Ma0047089	CP	%	79		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW24-Ma0047089	CP	%	109		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW24-Ma0047089	CP	%	87		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
				Result 1				
Perfluorooctane sulfonamide (FOSA)	TW24-Ma0047089	CP	%	93		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ma0047089	CP	%	96		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ma0047089	CP	%	84	50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ma0047089	CP	%	96	50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW24-Ma0047089	CP	%	89	50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ma0047089	CP	%	78	50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ma0047089	CP	%	99	50-150	Pass	
Spike - % Recovery							
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1			
Perfluorobutanesulfonic acid (PFBS)	TW24-Ma0047089	CP	%	122	50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW24-Ma0047089	CP	%	143	50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ma0047089	CP	%	71	50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ma0047089	CP	%	106	50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW24-Ma0047089	CP	%	144	50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ma0047089	CP	%	125	50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW24-Ma0047089	CP	%	125	50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW24-Ma0047089	CP	%	143	50-150	Pass	
Spike - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW24-Ma0047089	CP	%	96	50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ma0047089	CP	%	72	50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ma0047089	CP	%	89	50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW24-Ma0047089	CP	%	93	50-150	Pass	
Spike - % Recovery							
Perfluoroalkyl carboxylic acids (PFCA's)				Result 1			
Perfluorobutanoic acid (PFBA)	TW24-Ma0047096	CP	%	103	50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW24-Ma0047096	CP	%	103	50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW24-Ma0047096	CP	%	142	50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	TW24-Ma0047096	CP	%	123	50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW24-Ma0047096	CP	%	114	50-150	Pass	
Perfluorononanoic acid (PFNA)	TW24-Ma0047096	CP	%	99	50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW24-Ma0047096	CP	%	126	50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW24-Ma0047096	CP	%	126	50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW24-Ma0047096	CP	%	125	50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorotridecanoic acid (PFTrDA)	TW24-Ma0047096	CP	%	147			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW24-Ma0047096	CP	%	118			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	TW24-Ma0047096	CP	%	85			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ma0047096	CP	%	119			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ma0047096	CP	%	122			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ma0047096	CP	%	95			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW24-Ma0047096	CP	%	114			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ma0047096	CP	%	109			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ma0047096	CP	%	127			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	TW24-Ma0047096	CP	%	120			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW24-Ma0047096	CP	%	129			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ma0047096	CP	%	80			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ma0047096	CP	%	106			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW24-Ma0047096	CP	%	145			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ma0047096	CP	%	132			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW24-Ma0047096	CP	%	145			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW24-Ma0047096	CP	%	107			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW24-Ma0047096	CP	%	113			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ma0047096	CP	%	119			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ma0047096	CP	%	134			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW24-Ma0047096	CP	%	138			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluoroheptanoic acid (PFHpA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ma0047094	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW24-Ma0047094	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Comments

This report has been revised (V2) to correct sample names.

This report has been revised (V3) following repeat analysis. PFAS results for samples Ma0047089 and 90 have now been replaced by the repeat results.




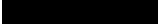
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS


Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

AECOM Aust Pty Ltd TSV
 Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810



NATA Accredited
 Accreditation Number 1261
 Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention:



Report 1079816-S-V4

Project name

Project ID QLD_0874_PFASOMP_24

Received Date

Mar 20, 2024

Client Sample ID			0874_QC201_2 40311	0874_QC203_2 40315	0874_QC205_2 40319
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			TW24- Ma0047090	TW24- Ma0047092	TW24- Ma0047095
Date Sampled			Mar 11, 2024	Mar 15, 2024	Mar 19, 2024
Test/Reference	LOR	Unit			
Sample Properties					
% Moisture	1	%	51	36	29
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTrDA) ^{N15}	5	ug/kg	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	78	80	85
13C5-PFPeA (surr.)	1	%	85	89	89
13C5-PFHxA (surr.)	1	%	67	58	64
13C4-PFHpA (surr.)	1	%	111	92	94
13C8-PFOA (surr.)	1	%	78	65	65
13C5-PFNA (surr.)	1	%	94	80	78
13C6-PFDA (surr.)	1	%	83	78	77
13C2-PFUnDA (surr.)	1	%	95	86	85
13C2-PFDoDA (surr.)	1	%	112	90	83
13C2-PFTeDA (surr.)	1	%	92	122	117
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10

Client Sample ID			0874_QC201_2 40311	0874_QC203_2 40315	0874_QC205_2 40319
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			TW24- Ma0047090	TW24- Ma0047092	TW24- Ma0047095
Date Sampled			Mar 11, 2024	Mar 15, 2024	Mar 19, 2024
Test/Reference	LOR	Unit			
Perfluoroalkyl sulfonamido substances					
13C8-FOSA (surr.)	1	%	80	79	79
D3-N-MeFOSA (surr.)	1	%	71	87	67
D5-N-EtFOSA (surr.)	1	%	73	82	63
D7-N-MeFOSE (surr.)	1	%	62	67	66
D9-N-EtFOSE (surr.)	1	%	63	69	58
D5-N-EtFOSAA (surr.)	1	%	61	87	90
D3-N-MeFOSAA (surr.)	1	%	69	92	88
Perfluoroalkyl sulfonic acids (PFASs)					
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	8.8	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	^{N09} 44	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	^{N09} 460	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	5.2	< 5	< 5
13C3-PFBS (surr.)	1	%	103	120	124
18O2-PFHxS (surr.)	1	%	88	86	84
13C8-PFOS (surr.)	1	%	76	87	87
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	66	39	42
13C2-6:2 FTSA (surr.)	1	%	143	88	88
13C2-8:2 FTSA (surr.)	1	%	90	60	67
13C2-10:2 FTSA (surr.)	1	%	95	98	90
PFASs Summations					
Sum (PFHxS + PFOS)*	5	ug/kg	504	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	460	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	504	< 5	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	504	< 10	< 10
Sum of PFASs (n=30)*	50	ug/kg	518	< 50	< 50

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
% Moisture - Method: LTM-GEN-7080 Moisture	Brisbane	Mar 20, 2024	14 Days
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 22, 2024	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Mar 21, 2024	28 Days
Perfluoroalkyl sulfonic acids (PFSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 17, 2024	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Mar 21, 2024	28 Days

web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
 South Townsville
 QLD 4810

Order No.: 60612487_2.1
Report #: 1079816
Phone: [REDACTED]
Fax: [REDACTED]

Received: Mar 20, 2024 9:30 AM
Due: Mar 27, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC200_240311	Mar 11, 2024		Water	TW24-Ma0047089		X
2	0874_QC201_240311	Mar 11, 2024		Soil	TW24-Ma0047090	X	X
3	0874_QC202_240315	Mar 15, 2024		Water	TW24-Ma0047091		X
4	0874_QC203_240315	Mar 15, 2024		Soil	TW24-Ma0047092	X	X
5	0874_QC250_240314	Mar 14, 2024		Water	TW24-Ma0047093		X
6	0874_QC503_240319	Mar 19, 2024		Water	TW24-Ma0047094		X
7	0874_QC205_240319	Mar 19, 2024		Soil	TW24-Ma0047095	X	X
8	0874_QC206_240319	Mar 19, 2024		Water	TW24-Ma0047096		X

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Mar 20, 2024 9:30 AM
Address:	Level 5/7-13 Tomlins St South Townsville QLD 4810	Report #:	1079816	Due:	Mar 27, 2024
		Phone:	██████	Priority:	5 Day
		Fax:	██████	Contact Name:	██████

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : ██████████

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC204_240319	Mar 19, 2024		Water	TW24-Ma0047097		X
10	0874_QC251_240319	Mar 19, 2024		Water	TW24-Ma0047098		X
11	0874_QC270_240319	Mar 19, 2024		Water	TW24-Ma0047099		X
Test Counts						3	11

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/kg	< 5		5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5		5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5		5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5		5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5		5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5		5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5		5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5		5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5		5	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	< 5		5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5		5	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5		5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5		5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5		5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5		5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5		5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10		10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10		10	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5		5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5		5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5		5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5		5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5		5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5		5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5		5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5		5	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10		10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5		5	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5		5	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	87		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	83		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	80		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	94		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	96		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	80		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	80		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	82		50-150	Pass	

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code		
Perfluorododecanoic acid (PFDoDA)	%	84	50-150	Pass			
Perfluorotridecanoic acid (PFTrDA)	%	76	50-150	Pass			
Perfluorotetradecanoic acid (PFTeDA)	%	79	50-150	Pass			
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	73	50-150	Pass			
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	80	50-150	Pass			
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	88	50-150	Pass			
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	88	50-150	Pass			
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	97	50-150	Pass			
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	72	50-150	Pass			
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	85	50-150	Pass			
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSA)							
Perfluorobutanesulfonic acid (PFBS)	%	80	50-150	Pass			
Perfluorononanesulfonic acid (PFNS)	%	80	50-150	Pass			
Perfluoropropanesulfonic acid (PFPrS)	%	85	50-150	Pass			
Perfluoropentanesulfonic acid (PFPeS)	%	87	50-150	Pass			
Perfluorohexanesulfonic acid (PFHxS)	%	84	50-150	Pass			
Perfluoroheptanesulfonic acid (PFHpS)	%	82	50-150	Pass			
Perfluorooctanesulfonic acid (PFOS)	%	77	50-150	Pass			
Perfluorodecanesulfonic acid (PFDS)	%	83	50-150	Pass			
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	110	50-150	Pass			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	87	50-150	Pass			
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	86	50-150	Pass			
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	70	50-150	Pass			
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSA)							
Perfluorooctanesulfonic acid (PFOS)	%	94	50-150	Pass			
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery							
Perfluoroalkyl carboxylic acids (PFCA)							
Perfluorobutanoic acid (PFBA)	B24-Ma0042202	NCP	%	85	50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW24-Ma0047090	CP	%	81	50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW24-Ma0047090	CP	%	93	50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B24-Ma0042202	NCP	%	78	50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW24-Ma0047090	CP	%	90	50-150	Pass	
Perfluorononanoic acid (PFNA)	TW24-Ma0047090	CP	%	78	50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW24-Ma0047090	CP	%	80	50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0042202	NCP	%	80	50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW24-Ma0047090	CP	%	81	50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW24-Ma0047090	CP	%	78	50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0042202	NCP	%	78	50-150	Pass	
Spike - % Recovery							

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	TW24-Ma0047090	CP	%	74			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW24-Ma0047090	CP	%	86			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW24-Ma0047090	CP	%	76			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW24-Ma0047090	CP	%	88			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0042202	NCP	%	84			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW24-Ma0047090	CP	%	72			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW24-Ma0047090	CP	%	86			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	TW24-Ma0047090	CP	%	85			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW24-Ma0047090	CP	%	73			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW24-Ma0047090	CP	%	90			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW24-Ma0047090	CP	%	103			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0042202	NCP	%	76			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW24-Ma0047090	CP	%	88			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0042202	NCP	%	56			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW24-Ma0047090	CP	%	92			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0042202	NCP	%	106			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW24-Ma0047090	CP	%	87			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW24-Ma0047090	CP	%	101			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0042202	NCP	%	76			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0042202	NCP	%	102			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA's)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorodecanoic acid (PFDA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B24-Ma0042219	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B24-Ma0042219	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW24-Ma0047090	CP	ug/kg	460	460	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B24-Ma0042219	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0042219	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	TW24-Ma0047092	CP	%	36	41	15	30%	Pass	

Comments

This report has been revised (V2) to correct sample names.




Sample Integrity

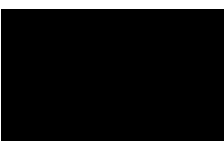
Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS
 Senior Analyst-Sample Properties

**Managing Director**

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



Melbourne
6 Monterey Road
Dandenong South
VIC 3175
+61 3 8564 5000
NATA# 1261
Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
+61 3 8564 5000
NATA# 1261
Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
+61 2 9900 8400
NATA# 1261
Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
+61 2 6113 8091
NATA# 1261
Site# 25466

Brisbane
1/21 Smallwood Place
Murarie
QLD 4172
T: +61 7 3902 4600
NATA# 1261
Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West
NSW 2304
+61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
+64 9 526 4551
IANZ# 1327

Auckland (Asb)
Unit C1/4 Pacific Rise,
Mount Wellington,
Auckland 1061
+64 9 525 0568
IANZ# 1308

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
+64 3 343 5201
IANZ# 1290

Tauranga
1277 Cameron Road,
Gate Pa,
Tauranga 3112
+64 9 525 0568
IANZ# 1402

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
South Townsville
QLD 4810

Order No.: 60612487_2.1
Report #: 1079816
Phone: [REDACTED]
Fax: [REDACTED]

Received: Mar 20, 2024 9:30 AM
Due: Mar 27, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC200_240311	Mar 11, 2024		Water	TW24-Ma0047089		X
2	0874_QC201_240311	Mar 11, 2024		Soil	TW24-Ma0047090	X	X
3	0874_QC202_240315	Mar 15, 2024		Water	TW24-Ma0047091		X
4	0874_QC203_240315	Mar 15, 2024		Soil	TW24-Ma0047092	X	X
5	0874_QC250_240314	Mar 14, 2024		Water	TW24-Ma0047093		X
6	0874_QC503_240319	Mar 19, 2024		Water	TW24-Ma0047094		X
7	0874_QC205_240319	Mar 19, 2024		Soil	TW24-Ma0047095	X	X
8	0874_QC206_240319	Mar 19, 2024		Water	TW24-Ma0047096		X



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: Level 5/7-13 Tomlins St
South Townsville
QLD 4810

Order No.: 60612487_2.1
Report #: 1079816
Phone: [REDACTED]
Fax: [REDACTED]

Received: Mar 20, 2024 9:30 AM
Due: Mar 27, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC204_240319	Mar 19, 2024		Water	TW24-Ma0047097		X
10	0874_QC251_240319	Mar 19, 2024		Water	TW24-Ma0047098		X
11	0874_QC270_240319	Mar 19, 2024		Water	TW24-Ma0047099		X
Test Counts						3	11

Eurofins Environment Testing Australia Pty Ltd

Eurofins ARL Pty Ltd

Eurofins ProMicro Pty Ltd

Eurofins Environment Testing NZ Ltd

ABN: 50 005 085 521

ABN: 91 05 0159 898

ABN: 47 009 120 549

NZBN: 9429046024954

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle	Perth	Perth ProMicro	Auckland	Auckland (Focus)	Christchurch	Tauranga
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive	46-48 Banksia Road	46-48 Banksia Road	35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Dandenong South	Grovedale	Girraween	Mitchell	Murarie	Mayfield West	Welshpool	Welshpool	Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304	WA 6106	WA 6106	Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448	+61 8 6253 4444	+61 8 6253 4444	+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 2377	NATA# 2561	IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289	Site# 2370	Site# 2554				

Sample Receipt Advice

Company name: AECOM Aust Pty Ltd TSV
Contact name: [REDACTED]
Project name: Not provided
Project ID: QLD_0874_PFASOMP_24
Turnaround time: 5 Day
Date/Time received: Mar 20, 2024 9:30 AM
Eurofins reference: 1079816

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✗ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]

Results will be delivered electronically via email to [REDACTED] - [REDACTED]

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd TSV email address.

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



NATA Accredited
 Accreditation Number 1261
 Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: [REDACTED]

Report **1082188-W-V3**
 Project name
 Project ID **QLD_0874_PFASOMP_24**
 Received Date **Mar 27, 2024**

Client Sample ID			0874_QC207_2 40320	0874_QC208_2 40321	0874_QC271_2 40320	0874_QC272_2 40321
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B24- Ma0065500	B24- Ma0065501	B24- Ma0065502	B24- Ma0065503
Date Sampled			Mar 20, 2024	Mar 21, 2024	Mar 21, 2024	Mar 21, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	78	89	60	106
13C5-PFPeA (surr.)	1	%	78	89	68	85
13C5-PFHxA (surr.)	1	%	150	176	64	73
13C4-PFHpA (surr.)	1	%	101	136	117	87
13C8-PFOA (surr.)	1	%	112	142	120	88
13C5-PFNA (surr.)	1	%	84	111	116	92
13C6-PFDA (surr.)	1	%	91	133	128	92
13C2-PFUnDA (surr.)	1	%	84	90	121	84
13C2-PFDoDA (surr.)	1	%	99	101	135	73
13C2-PFTTeDA (surr.)	1	%	69	71	142	77
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	61	79	108	56
D3-N-MeFOSA (surr.)	1	%	38	28	58	41

Client Sample ID			0874_QC207_2 40320	0874_QC208_2 40321	0874_QC271_2 40320	0874_QC272_2 40321
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B24- Ma0065500	B24- Ma0065501	B24- Ma0065502	B24- Ma0065503
Date Sampled			Mar 20, 2024	Mar 21, 2024	Mar 21, 2024	Mar 21, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSA (surr.)	1	%	21	18	29	45
D7-N-MeFOSE (surr.)	1	%	54	36	55	66
D9-N-EtFOSE (surr.)	1	%	51	42	26	50
D5-N-EtFOSAA (surr.)	1	%	152	163	145	84
D3-N-MeFOSAA (surr.)	1	%	153	158	143	77
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.01	< 0.01	0.02	0.03
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 0.01	^{N09} 0.01	< 0.01	^{N09} 0.05
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} < 0.01	^{N09} < 0.01	^{N09} 0.02	^{N09} 0.08
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	142	158	91	85
18O2-PFHxS (surr.)	1	%	131	143	111	90
13C8-PFOS (surr.)	1	%	61	79	106	92
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	70	107	80	73
13C2-6:2 FTSA (surr.)	1	%	102	190	92	114
13C2-8:2 FTSA (surr.)	1	%	48	64	131	115
13C2-10:2 FTSA (surr.)	1	%	142	127	82	106
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	0.01	0.01	0.02	0.13
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01	0.02	0.08
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.01	0.01	0.02	0.13
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	< 0.05	< 0.05	0.16
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	< 0.1	< 0.1	0.16

Client Sample ID			0874_QC273_2 40321	0874_QC253_2 40320	0874_QC254_2 40320	0874_QC256_2 40321
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B24- Ma0065504	B24- Ma0065506	B24- Ma0065507	B24- Ma0065509
Date Sampled			Mar 21, 2024	Mar 20, 2024	Mar 20, 2024	Mar 21, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	1.1	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	1.6	0.06	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	6.8	0.26	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	^{N09} 0.59	0.03	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	^{N09} 1.3	^{N09} 0.07	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	0.03	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	111	122	107	91
13C5-PFPeA (surr.)	1	%	111	91	108	91
13C5-PFHxA (surr.)	1	%	INT	92	100	161
13C4-PFHpA (surr.)	1	%	141	71	86	128
13C8-PFOA (surr.)	1	%	137	75	98	125
13C5-PFNA (surr.)	1	%	124	85	106	112
13C6-PFDA (surr.)	1	%	108	63	91	104
13C2-PFUnDA (surr.)	1	%	103	91	84	93
13C2-PFDoDA (surr.)	1	%	107	81	91	94
13C2-PFTTeDA (surr.)	1	%	76	115	131	62
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	^{N09} < 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	95	75	85	98
D3-N-MeFOSA (surr.)	1	%	36	66	87	13
D5-N-EtFOSA (surr.)	1	%	20	78	96	INT
D7-N-MeFOSE (surr.)	1	%	76	65	85	43
D9-N-EtFOSE (surr.)	1	%	70	60	67	37
D5-N-EtFOSAA (surr.)	1	%	168	94	91	142
D3-N-MeFOSAA (surr.)	1	%	161	78	72	140
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	< 0.01	4.4	0.12	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 0.20	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	2.3	0.03	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 2.6	^{N09} 0.11	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	< 0.01	^{N09} 22	^{N09} 0.78	^{N09} 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 2.3	^{N09} 0.03	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} < 0.01	^{N09} 14	^{N09} 0.52	^{N09} < 0.01
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	^{N09} < 0.01	< 0.01	< 0.01

Client Sample ID			0874_QC273_2 40321	0874_QC253_2 40320	0874_QC254_2 40320	0874_QC256_2 40321
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B24- Ma0065504	B24- Ma0065506	B24- Ma0065507	B24- Ma0065509
Date Sampled			Mar 21, 2024	Mar 20, 2024	Mar 20, 2024	Mar 21, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSA)						
13C3-PFBS (surr.)	1	%	175	78	103	146
18O2-PFHxS (surr.)	1	%	150	117	76	140
13C8-PFOS (surr.)	1	%	95	122	83	98
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	0.02	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	113	122	INT	94
13C2-6:2 FTSA (surr.)	1	%	148	115	139	166
13C2-8:2 FTSA (surr.)	1	%	56	123	108	52
13C2-10:2 FTSA (surr.)	1	%	134	98	84	92
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	36	1.3	0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	15.3	0.59	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	37.3	1.37	0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	51.81	1.84	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	59.24	2.01	< 0.1

Client Sample ID			0874_QC257_2 40321	0874_QC258_2 40322	0874_QC508_2 40325
Sample Matrix			Water	Water	Water
Eurofins Sample No.			B24- Ma0065510	B24- Ma0065511	B24- Ma0065512
Date Sampled			Mar 21, 2024	Mar 22, 2024	Mar 25, 2024
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCA)					
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	1.8	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	3.6	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	14	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	^{NO9} 1.3	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	^{NO9} 3.4	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	0.03	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	70	125	103
13C5-PFPeA (surr.)	1	%	70	96	103
13C5-PFHxA (surr.)	1	%	70	99	103
13C4-PFHpA (surr.)	1	%	70	83	103
13C8-PFOA (surr.)	1	%	70	75	103
13C5-PFNA (surr.)	1	%	75	67	107
13C6-PFDA (surr.)	1	%	55	70	83

Client Sample ID			0874_QC257_2 40321	0874_QC258_2 40322	0874_QC508_2 40325
Sample Matrix			Water	Water	Water
Eurofins Sample No.			B24- Ma0065510	B24- Ma0065511	B24- Ma0065512
Date Sampled			Mar 21, 2024	Mar 22, 2024	Mar 25, 2024
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCAs)					
13C2-PFUnDA (surr.)	1	%	75	76	113
13C2-PFDoDA (surr.)	1	%	69	84	110
13C2-PFTeDA (surr.)	1	%	106	127	162
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	^{N09} < 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	92	83	102
D3-N-MeFOSA (surr.)	1	%	125	91	179
D5-N-EtFOSA (surr.)	1	%	142	96	190
D7-N-MeFOSE (surr.)	1	%	93	91	146
D9-N-EtFOSE (surr.)	1	%	105	69	139
D5-N-EtFOSAA (surr.)	1	%	77	83	120
D3-N-MeFOSAA (surr.)	1	%	80	71	121
Perfluoroalkyl sulfonic acids (PFSA)					
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.02	8.1	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 0.31	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	3.7	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 7.1	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	< 0.01	^{N09} 56	< 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	^{N09} 5.5	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 0.02	^{N09} 70	< 0.01
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	67	73	93
18O2-PFHxS (surr.)	1	%	65	87	92
13C8-PFOS (surr.)	1	%	83	95	119
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	0.08	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	73	68	193
13C2-6:2 FTSA (surr.)	1	%	135	72	INT
13C2-8:2 FTSA (surr.)	1	%	104	61	165
13C2-10:2 FTSA (surr.)	1	%	83	72	130

Client Sample ID			0874_QC257_2 40321	0874_QC258_2 40322	0874_QC508_2 40325
Sample Matrix			Water	Water	Water
Eurofins Sample No.			B24- Ma0065510	B24- Ma0065511	B24- Ma0065512
Date Sampled			Mar 21, 2024	Mar 22, 2024	Mar 25, 2024
Test/Reference	LOR	Unit			
PFASs Summations					
Sum (PFHxS + PFOS)*	0.01	ug/L	0.02	126	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.02	73.4	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.02	129.4	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	158.28	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	174.92	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Apr 03, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Apr 03, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFASs)	Brisbane	Apr 16, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Apr 03, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

Company Name: AECOM Aust Pty Ltd Brisbane
Address: Level 8, 540 Wickham Street
 Fortitude Valley
 QLD 4006

Order No.: 60612487_2.1
Report #: 1082188
Phone: [REDACTED]
Fax: [REDACTED]

Received: Mar 27, 2024 10:30 AM
Due: Apr 5, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC207_240320	Mar 20, 2024		Water	B24-Ma0065500		X
2	0874_QC208_240321	Mar 21, 2024		Water	B24-Ma0065501		X
3	0874_QC271_240320	Mar 21, 2024		Water	B24-Ma0065502		X
4	0874_QC272_240321	Mar 21, 2024		Water	B24-Ma0065503		X
5	0874_QC273_240321	Mar 21, 2024		Water	B24-Ma0065504		X
6	0874_QC252_240320	Mar 20, 2024		Soil	B24-Ma0065505	X	X
7	0874_QC253_240320	Mar 20, 2024		Water	B24-Ma0065506		X
8	0874_QC254_240320	Mar 20, 2024		Water	B24-Ma0065507		X

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd Brisbane	Order No.:	60612487_2.1	Received:	Mar 27, 2024 10:30 AM
Address:	Level 8, 540 Wickham Street Fortitude Valley QLD 4006	Report #:	1082188	Due:	Apr 5, 2024
Project Name:		Phone:	██████	Priority:	5 Day
Project ID:	QLD_0874_PFASOMP_24	Fax:	██████	Contact Name:	██████████
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC255_240320	Mar 20, 2024		Soil	B24-Ma0065508	X	X
10	0874_QC256_240321	Mar 21, 2024		Water	B24-Ma0065509		X
11	0874_QC257_240321	Mar 21, 2024		Water	B24-Ma0065510		X
12	0874_QC258_240322	Mar 22, 2024		Water	B24-Ma0065511		X
13	0874_QC508_240325	Mar 25, 2024		Water	B24-Ma0065512		X
Test Counts						2	13

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05		0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01		0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01		0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01		0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotetradecanoic acid (PFTTeDA)	ug/L	< 0.01		0.01	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05		0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05		0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05		0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05		0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05		0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05		0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05		0.05	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01		0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01		0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01		0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01		0.01	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05		0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01		0.01	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	105		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	111		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	113		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	119		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	120		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	114		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	127		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	116		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	113		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	111		50-150	Pass	
Perfluorotetradecanoic acid (PFTTeDA)	%	99		50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	51			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	73			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	52			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	84			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	61			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	107			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	115			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	90			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	121			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	100			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	91			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	106			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	116			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	127			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	115			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	113			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	135			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	126			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	96			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
Perfluorobutanoic acid (PFBA)	B24-Ma0065512	CP	%	98		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	B24-Ma0065512	CP	%	107		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	B24-Ma0065512	CP	%	95		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B24-Ma0065512	CP	%	110		50-150	Pass	
Perfluorooctanoic acid (PFOA)	B24-Ma0065512	CP	%	93		50-150	Pass	
Perfluorononanoic acid (PFNA)	B24-Ma0065512	CP	%	107		50-150	Pass	
Perfluorodecanoic acid (PFDA)	B24-Ma0065512	CP	%	109		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0065512	CP	%	104		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	B24-Ma0065512	CP	%	120		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	B24-Ma0065512	CP	%	95		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0065512	CP	%	86		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	B24-Ma0065512	CP	%	94		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B24-Ma0065512	CP	%	109		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B24-Ma0065512	CP	%	95		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B24-Ma0065512	CP	%	110		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0065512	CP	%	107		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B24-Ma0065512	CP	%	95			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B24-Ma0065512	CP	%	114			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	B24-Ma0065512	CP	%	94			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	B24-Ma0065512	CP	%	92			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B24-Ma0065512	CP	%	96			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B24-Ma0065512	CP	%	69			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0065512	CP	%	100			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B24-Ma0065512	CP	%	107			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0065512	CP	%	96			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	B24-Ma0065512	CP	%	88			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0065512	CP	%	113			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B24-Ma0065512	CP	%	87			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B24-Ma0065512	CP	%	125			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0065512	CP	%	108			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B24-Ma0065502	CP	ug/L	0.02	0.02	9.5	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0065502	CP	ug/L	0.02	0.02	3.5	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B24-Ma0065502	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0065502	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Perfluoroalkyl carboxylic acids (PFCA)				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanoic acid (PFNA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotridecanoic acid (PFTTrDA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B24-Ma0065510	CP	ug/L	0.02	0.01	14	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0065510	CP	ug/L	0.02	0.02	17	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B24-Ma0065510	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0065510	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass

Comments

This report has been revised (V2) following repeat analysis. PFAS results for sample 24-Ma0065503, 6, 7, 51 have now been replaced by the repeat results.

Sample Integrity

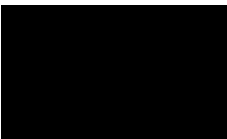
Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS



Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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



NATA Accredited
 Accreditation Number 1261
 Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: [REDACTED]

Report **1082188-S-V4**
 Project name
 Project ID [QLD_0874_PFASOMP_24](#)
 Received Date Mar 27, 2024

Client Sample ID			0874_QC252_2 40320	0874_QC252_2 40320
Sample Matrix			Soil	Soil
Eurofins Sample No.			B24- Ma0065505	B24- Ma0065508
Date Sampled			Mar 20, 2024	Mar 20, 2024
Test/Reference	LOR	Unit		
Sample Properties				
% Moisture	1	%	39	22
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	5	ug/kg	< 5	< 5
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	5	ug/kg	< 5	< 5
13C4-PFBA (surr.)	1	%	77	19
13C5-PFPeA (surr.)	1	%	77	19
13C5-PFHxA (surr.)	1	%	100	55
13C4-PFHpA (surr.)	1	%	101	51
13C8-PFOA (surr.)	1	%	97	68
13C5-PFNA (surr.)	1	%	97	52
13C6-PFDA (surr.)	1	%	89	70
13C2-PFUnDA (surr.)	1	%	82	70
13C2-PFDoDA (surr.)	1	%	114	98
13C2-PFTTeDA (surr.)	1	%	119	137
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10

Client Sample ID			0874_QC252_2 40320	0874_QC255_2 40320
Sample Matrix			Soil	Soil
Eurofins Sample No.			B24- Ma0065505	B24- Ma0065508
Date Sampled			Mar 20, 2024	Mar 20, 2024
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances				
13C8-FOSA (surr.)	1	%	93	88
D3-N-MeFOSA (surr.)	1	%	113	127
D5-N-EtFOSA (surr.)	1	%	101	93
D7-N-MeFOSE (surr.)	1	%	132	119
D9-N-EtFOSE (surr.)	1	%	59	75
D5-N-EtFOSAA (surr.)	1	%	154	134
D3-N-MeFOSAA (surr.)	1	%	132	123
Perfluoroalkyl sulfonic acids (PFASs)				
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5
13C3-PFBS (surr.)	1	%	118	62
18O2-PFHxS (surr.)	1	%	127	113
13C8-PFOS (surr.)	1	%	121	53
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	76	34
13C2-6:2 FTSA (surr.)	1	%	42	17
13C2-8:2 FTSA (surr.)	1	%	38	31
13C2-10:2 FTSA (surr.)	1	%	87	64
PFASs Summations				
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
% Moisture - Method: LTM-GEN-7080 Moisture	Brisbane	Mar 27, 2024	14 Days
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 02, 2024	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 02, 2024	28 Days
Perfluoroalkyl sulfonic acids (PFSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 02, 2024	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Apr 02, 2024	28 Days

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd Brisbane
Address: Level 8, 540 Wickham Street
 Fortitude Valley
 QLD 4006

Order No.: 60612487_2.1
Report #: 1082188
Phone: [REDACTED]
Fax: [REDACTED]

Received: Mar 27, 2024 10:30 AM
Due: Apr 5, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC207_240320	Mar 20, 2024		Water	B24-Ma0065500		X
2	0874_QC208_240321	Mar 21, 2024		Water	B24-Ma0065501		X
3	0874_QC271_240320	Mar 21, 2024		Water	B24-Ma0065502		X
4	0874_QC272_240321	Mar 21, 2024		Water	B24-Ma0065503		X
5	0874_QC273_240321	Mar 21, 2024		Water	B24-Ma0065504		X
6	0874_QC252_240320	Mar 20, 2024		Soil	B24-Ma0065505	X	X
7	0874_QC253_240320	Mar 20, 2024		Water	B24-Ma0065506		X
8	0874_QC254_240320	Mar 20, 2024		Water	B24-Ma0065507		X

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd Brisbane	Order No.:	60612487_2.1	Received:	Mar 27, 2024 10:30 AM
Address:	Level 8, 540 Wickham Street Fortitude Valley QLD 4006	Report #:	1082188	Due:	Apr 5, 2024
Project Name:		Phone:	██████	Priority:	5 Day
Project ID:	QLD_0874_PFASOMP_24	Fax:	██████	Contact Name:	██████████
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC255_240320	Mar 20, 2024		Soil	B24-Ma0065508	X	X
10	0874_QC256_240321	Mar 21, 2024		Water	B24-Ma0065509		X
11	0874_QC257_240321	Mar 21, 2024		Water	B24-Ma0065510		X
12	0874_QC258_240322	Mar 22, 2024		Water	B24-Ma0065511		X
13	0874_QC508_240325	Mar 25, 2024		Water	B24-Ma0065512		X
Test Counts						2	13

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/kg	< 5		5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5		5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5		5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5		5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5		5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5		5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5		5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5		5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5		5	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	< 5		5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5		5	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5		5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5		5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5		5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5		5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5		5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10		10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10		10	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5		5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5		5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5		5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5		5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5		5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5		5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5		5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5		5	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10		10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5		5	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	106		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	112		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	107		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	116		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	114		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	126		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	114		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	104		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	133		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	118		50-150	Pass	
LCS - % Recovery						

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	119			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	97			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	105			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	92			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	110			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	116			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	115			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA)								
Perfluorobutanesulfonic acid (PFBS)	%	109			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	105			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	115			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	110			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	114			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	117			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	104			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	118			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	97			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	117			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	98			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	106			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
Perfluorobutanoic acid (PFBA)	B24-Ma0069428	NCP	%	112		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	B24-Ma0069428	NCP	%	92		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	B24-Ma0069428	NCP	%	112		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B24-Ma0069428	NCP	%	149		50-150	Pass	
Perfluorooctanoic acid (PFOA)	B24-Ma0069428	NCP	%	148		50-150	Pass	
Perfluorononanoic acid (PFNA)	B24-Ma0069428	NCP	%	118		50-150	Pass	
Perfluorodecanoic acid (PFDA)	B24-Ma0069428	NCP	%	131		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0069428	NCP	%	114		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	B24-Ma0069428	NCP	%	118		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	B24-Ma0069428	NCP	%	141		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0069428	NCP	%	109		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	B24-Ma0069428	NCP	%	104		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B24-Ma0069428	NCP	%	106		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B24-Ma0069428	NCP	%	90		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B24-Ma0069428	NCP	%	99		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0069428	NCP	%	113		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B24-Ma0069428	NCP	%	103			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B24-Ma0069428	NCP	%	116			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	B24-Ma0069428	NCP	%	92			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	B24-Ma0069428	NCP	%	92			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B24-Ma0069428	NCP	%	69			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B24-Ma0069428	NCP	%	102			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0069428	NCP	%	93			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B24-Ma0069428	NCP	%	104			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0069428	NCP	%	98			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	B24-Ma0069428	NCP	%	86			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0069428	NCP	%	86			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B24-Ma0069428	NCP	%	79			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B24-Ma0069428	NCP	%	105			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0069428	NCP	%	98			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B24-Ma0060118	NCP	ug/kg	< 10	< 10	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B24-Ma0060118	NCP	ug/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B24-Ma0060118	NCP	ug/kg	< 10	< 10	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B24-Ma0060118	NCP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	B24-Ma0065508	CP	%	22	21	3.5	30%	Pass




Comments**Sample Integrity**

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS
 Senior Analyst-Sample Properties

Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289
---	--	--	--	---	--

Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd Brisbane
Address: Level 8, 540 Wickham Street
Fortitude Valley
QLD 4006

Order No.: 60612487_2.1
Report #: 1082188
Phone: [REDACTED]
Fax: [REDACTED]

Received: Mar 27, 2024 10:30 AM
Due: Apr 5, 2024
Priority: 5 Day
Contact Name: [REDACTED]

Project Name:
Project ID: QLD_0874_PFASOMP_24

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC207_240320	Mar 20, 2024		Water	B24-Ma0065500		X
2	0874_QC208_240321	Mar 21, 2024		Water	B24-Ma0065501		X
3	0874_QC271_240320	Mar 21, 2024		Water	B24-Ma0065502		X
4	0874_QC272_240321	Mar 21, 2024		Water	B24-Ma0065503		X
5	0874_QC273_240321	Mar 21, 2024		Water	B24-Ma0065504		X
6	0874_QC252_240320	Mar 20, 2024		Soil	B24-Ma0065505	X	X
7	0874_QC253_240320	Mar 20, 2024		Water	B24-Ma0065506		X
8	0874_QC254_240320	Mar 20, 2024		Water	B24-Ma0065507		X



web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--	---	--	---	---	--	--	--

Company Name:	AECOM Aust Pty Ltd Brisbane	Order No.:	60612487_2.1	Received:	Mar 27, 2024 10:30 AM
Address:	Level 8, 540 Wickham Street Fortitude Valley QLD 4006	Report #:	1082188	Due:	Apr 5, 2024
Project Name:		Phone:	██████	Priority:	5 Day
Project ID:	QLD_0874_PFASOMP_24	Fax:	██████	Contact Name:	██████████
Eurofins Analytical Services Manager : ██████████					

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC255_240320	Mar 20, 2024		Soil	B24-Ma0065508	X	X
10	0874_QC256_240321	Mar 21, 2024		Water	B24-Ma0065509		X
11	0874_QC257_240321	Mar 21, 2024		Water	B24-Ma0065510		X
12	0874_QC258_240322	Mar 22, 2024		Water	B24-Ma0065511		X
13	0874_QC508_240325	Mar 25, 2024		Water	B24-Ma0065512		X
Test Counts						2	13

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Brisbane
Contact name:	[REDACTED]
Project name:	Not provided
Project ID:	QLD_0874_PFSASOMP_24
Turnaround time:	5 Day
Date/Time received	Mar 27, 2024 10:30 AM
Eurofins reference	1082188

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 20.4 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]

Results will be delivered electronically via email to [REDACTED] - [REDACTED]

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Brisbane email address.

Appendix F

Calibration Certificates

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	606 12487	
Project Location:	KARF 30		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:	Airmat				
Make and Model:	YSI 110 Plus				
Serial Number:	70M101181				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	11/3/2024				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.01	6.99	2760	1007.05	
Calibration Reading:	4.01	7.17	280	97.87	(100)
Calibration Temperature:	27.2	28.4	28.3	29.7	
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			11/03/2024		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

OH
M ✓
2272
194 227
28.4

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	60612487	
Project Location:	RAAF ISV		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:	Airmet				
Make and Model:	VSI Pro Plus				
Serial Number:	20M101181				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	12/3/24 8:00 AM				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.01 pre	4.00 post	2862530	100% pre	100% post
Calibration Reading:	6.92	3.85	2535	112.9	100%
Calibration Temperature:	23.8°C	23.7°C	23.7°C	23.4	
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
Fieldwork Staff Signature			Date		
[Redacted Signature]			12/3/24		
Distribution: Project Central File					

ORD
MU
233.9
pre post
237.9 | 232-C
23.5°C

ANZ
FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMA	Project Number:	60612487
Project Location:	RAAFTSV	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 fieldwork.

INSTRUMENT DETAILS

Supplier:	Airmet
Make and Model:	VSI Pro Plus
Serial Number:	20001-20M101181

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/3/2024 8:00am				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.00	4.01	2526/2533	1001	
Calibration Reading:	6.96 / 6.97	4.04 / 4.03	2536 / 2546	102.4 / 101	
Calibration Temperature:	25.6°C	25.3°C	25.1°C	24.1°C	

ORP
 n
 231.9
 238.8
 231.
 25.1°C

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been tested as required by fieldwork staff.

Fieldwork Staff Signature

13/3/2024

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	RAAF Base TSV	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:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102234

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	µS/cm	mV ORP	100% ppm
Calibration Standard Concentration:	4.00	7.00	2760	236.5	99.5
Calibration Reading:	4.01	7.03	2815	233.8	98.3
Calibration Temperature:	29.1	29.8	29.2	28.9	29.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 15.03.23
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	60612487	
Project Location:	RAAF Base TSV		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:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	µS/cm	mV	%
Calibration Standard Concentration:	4.00	7.00	2760	236.5	100
Calibration Reading:	4.03	7.01	2883	245.1	102.1
Calibration Temperature:	29.2	29.1	29.1	29.0	29.1
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			14.03.2024		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ
FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487
Project Location:	RAAF TSU	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 fieldwork.

INSTRUMENT DETAILS

Supplier:	Airmet
Make and Model:	YSI Pro Plus
Serial Number:	70M101181

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	7:00am 14/3/2024				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.01	4.00	2441	100%	
Calibration Reading:	7.01	4.00	2441	100%	
Calibration Temperature:	23.7°C	23.4°C	23.6°C	23.5°C	

ORP
 mV
 233.8
 229.7
 223.3

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Large empty area for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

Date

Distribution: Project Central File

14/3/2024

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	RAAF TSU	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 fieldwork.

INSTRUMENT DETAILS

Supplier:	Airmet
Make and Model:	VSI Pro Plus
Serial Number:	20M101181

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	15/3/2024 7:35am				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ORP ppm mV
Calibration Standard Concentration:	7.01	4.00	2332	100.1	233
Calibration Reading:	6.24	3.93	2331	96.5	159
Calibration Temperature:	23.6°C	23.8°C	23.1°C	23.2	23.6

ORP not accurate/representative
Failed

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

ORP not correctly calibrated.
ORP to be tested with other WQM for samples on 15/3/24

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff. ORP not accurate/representative

Fieldwork Staff Signature: [Redacted] Date: 15/3/24

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487
Project Location:	RAAF TSU	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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	VST Pro
Serial Number:	18K102554

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	15/3/24.				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	6.99	4.01	852582	99.77	227.1
Calibration Reading:	7.25	4.10	7627	96.57	230.1
Calibration Temperature:	28.7°C	28.3°C	27.8°C	26.1°C	28.0°C

ORP mV
226.9
246.3
283.0

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated and bump tested as required by fieldwork staff.

[REDACTED]
Fieldwork Staff Signature

15/3/2024
Date

Distribution: Project Central File

ANZ

AECOM

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP - RAAF TSV	Project Number:	60612477-2.1
Project Location:	CARRUTT ISLAND	Client:	DEPT OF 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 fieldwork.

INSTRUMENT DETAILS

Supplier:	AIRMET
Make and Model:	YSI PRO QUATRO
Serial Number:	23E102257

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	18 3 24				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	$\mu\text{S}/\text{cm}$	mV ppm	ppm %
Calibration Standard Concentration:	4.01	7.00	2813	230.4	99.5
Calibration Reading:	4.11	6.83	2495	226.3	105.5
Calibration Temperature:	26.0	25.8	25.8	25.5	23.6

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	$\mu\text{S}/\text{cm}$	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor performance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument inspected and calibrated daily and bump tested as required by fieldwork staff.

[REDACTED] _____ 18-3-24 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS BMP - ROOF T&V	Project Number:	60612487-2.1
Project Location:	GARRATT TOWNVILLE	Client:	DEPT OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (FQM) daily before the start of fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRODS5
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	18/3/24				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ORP mV	ppm %
Calibration Standard Concentration:	7.01	7.00	2813	230.4	99.4
Calibration Reading:	4.21	6.86	2227	211.3	190.8
Calibration Temperature:	25.7	25.5	25.9	25.5	23.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature	[REDACTED]	Date	18/3/24
---------------------------	------------	------	---------

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487-2.1		
Project Location:	RAAF Base TSV	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:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	19/3/24 10:00				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.00	7.00	2760	236.5	100
Calibration Reading:	4.12	7.07	2805	247.8	103.1
Calibration Temperature:	28.1	28.0	28.2	28.0	28.1
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
_____ Fieldwork Staff Signature			_____ Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487 - 2.1		
Project Location:	RAAF Base TSV	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:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K 102 334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	20/03/24 9:50				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	µS/cm	mV ppm	ppm
Calibration Standard Concentration:	4.00	7.00	2760	236.5	100
Calibration Reading:	4.01	7.02	2851	271.4	98.7
Calibration Temperature:	28.1	28.1	28.2	28.1	28.2
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
_____ Fieldwork Staff Signature			_____ Date		
Distribution: Project Central File					

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFASMP - ADF TS1	Project Number:	60612487-2.1
Project Location:	CARRIBT TOWN	Client:	DEPT OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is provided to project fieldwork staff to calibrate water quality meters (FQM) daily before the start of fieldwork.

INSTRUMENT DETAILS

Supplier:	AIRMET
Make and Model:	451 Pro Plus
Serial Number:	18.T104305

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	1100 20/3/24				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	4.01	7.00	2865	220	1.00
Calibration Reading:	4.08	7.06	2481	224.1	98.0
Calibration Temperature:	27.2	27.0	27.0	27.3	28.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	1100 7				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Recalibrated due to issues encountered + failed bump test.
 Recalibrated after collecting parameters for MW140.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[REDACTED] Fieldwork Staff Signature 20/3/24 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP - RAAT TSV	Project Number:	60612487-2-1
Project Location:	GARROTT TOWNVILLE	Client:	DEPT OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to provide fieldwork staff to calibrate water quality meter (FQM) daily before the start of fieldwork.

INSTRUMENT DETAILS

Supplier:	ALZMET
Make and Model:	YSI Pro Plus
Serial Number:	18J104305

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	07:55 20/3/24				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	4.01	7.00	2464	229	99.5
Calibration Reading:	3.96	6.97	2723	231.5	
Calibration Temperature:	21.5	24.0	19.0	24.5	25.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	10:55 20/3/24				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	4.01	7.00	2865	220	100
Bump Test Reading:	4.08	7.06	2481	224.1	98
Bump Test Temperature:	27.2	27.0	27.0	27.5	28.2

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Recalibrated due to inadequate bump test results.
See new calibration sheet.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[REDACTED] Fieldwork Staff Signature 20/3/24 Date

Distribution: Project Central File

4.08
7.00

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	RAAF TSV OMP	Project Number:	60612487
Project Location:	TSV RAAF	Client:	DEPT. OF 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:	AIRMET
Make and Model:	PRO QUATRO
Serial Number:	23E102257

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	20-3-24				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	µS/cm	mV	% ppm
Calibration Standard Concentration:	4.01	6.99	2760	229.0	100
Calibration Reading:	3.98	7.06	2763	228.6	98.4
Calibration Temperature:	28.1	28.4	28.6	28.2	31.5

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:			276		
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument used must be calibrated and calibrated daily and bump tested as required by fieldwork staff.

[REDACTED]

Fieldwork Staff Signature

20-3-24

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS RMP RAN TS	Project Number:	10612487-2.1
Project Location:	CARRUTT, TOWNVILLE	Client:	DEPT OF 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:	AIRMET
Make and Model:	YSI ProPlus
Serial Number:	18T104305

CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	21/3/24 1010				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
	pH	pH		µS/cm	ORP MV
Calibration Standard Concentration:	4.01	7.00	2865	220	100
Calibration Reading:	4.01	7.00	2833	220.6	100
Calibration Temperature:	27.3	27.2	27.2	27.3	26.0

ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
	pH	pH		µS/cm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					

Approval and Distribution	
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.	
_____ Fieldwork Staff Signature	_____ 21/3/24 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	6062487-2.1
Project Location:	RAAF Base TSV	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 fieldwork.

INSTRUMENT DETAILS

Supplier:	Airmet
Make and Model:	VSI Pro Quatro
Serial Number:	23E102257

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	ORP ppm mV	ppm
Calibration Standard Concentration:	4.00	7.00	2760	227.0	100
Calibration Reading:	4.24	7.17	2800	230.1	66.4
Calibration Temperature:	24.9	24.9	24.4	22.2	26.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Large empty box for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 22.03.24 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487-2.1		
Project Location:	RAAF Base TSV	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:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K 102 334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	4.00	7.00	2760	228.9	100
Calibration Reading:	3.86	7.03	3872	238.5	101.3
Calibration Temperature:	26.5	26.3	27.1	26.6	25.9
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
_____ Fieldwork Staff Signature			_____ 22.03.24 Date		
Distribution: Project Central File					

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP RAAF	Project Number:	6002487
Project Location:	RAAF TAINOVILLE	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:	APPLIED AECOM
Make and Model:	Pro DSO
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	ORP Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	MV ppm	% ppm
Calibration Standard Concentration:	4.00	7.00	2760	230.8	100
Calibration Reading:	4.27	7.18	2782	224.9	98.2
Calibration Temperature:	25.2	25.2	25.1	25.2	25.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Large empty area for handwritten comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

 Fieldwork Staff Signature

25/13/24
 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	GMP RAAT		Project Number:	60612487	
Project Location:	RAAT Townsite		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:	AquaMet				
Make and Model:	YSI 6000				
Serial Number:	23E102252				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:					
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	mV-ppm	% ppm
Calibration Standard Concentration:	4.01	7.00	2760	270.1	100
Calibration Reading:	3.97	7.02	3178	238.2	101.2
Calibration Temperature:	27.8	27.2	28.1	27.9	28.3
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
_____ Fieldwork Staff Signature			_____ Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP - RAAF TSV	Project Number:	6002487-2.1
Project Location:	CARBURT TSV	Client:	DEPT OF 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:	AECOM
Make and Model:	YSI PRODS5
Serial Number:	18K10

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	0810 28/3/24				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm
Calibration Standard Concentration:	4.01	7.00	2707	260	100
Calibration Reading:	3.92	7.02	2356	848.265	99.4
Calibration Temperature:	24.0	23.6	23.8	8.8	22.2

START
0820
END
0830

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

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] _____ 28/3/24 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File



Calibration Certificate

AirMet Scientific P/L
 135 Sydney Street
 Mackay
 QLD 4740, Australia
 Tel: 07 4951 7500
 Fax: 07 4951 7575

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 6-Jul-2023 Call ID / Order No: 262375
 Calibration Date: 04-Jul-2023 Job No / Pack No: S2623750001
 Next Calibration Due: 4-Jul-2024

Customer: AECOM Australia Pty Ltd-ID 407250 **Serial No:** 18K102334
Description: Xylem ProDSS Handheld, No GPS

Calibration Summary

Frequency: 366 Days **Temp:** 22°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2623750001

Desc	As Found		As Left (Cal Status)	
	Actual	Result	Actual	Result
PH4	4.2	Pass	4.0	Pass
PH7	7.2	Pass	7.01	Pass
Specific Conductivity	2018.0	Fail	1414.0	Pass
DO	-0.6	Pass	0.0	Pass
Turbidity	48.3	Pass	49.5	Pass
Barometer	101.56	Pass	101.55	Pass
ORP	231.6	Pass	235.6	Pass
Temp 22.2C	22.2	Pass	22.2	Pass

Equip ID	Standard Used Description	Valid Until	Cert
S4220604	Vaisala PTU Transmitter	20/10/2023	

pH4 s/n399527, pH7 s/n399304, Cond1413uS/cm s/n398532, ORP zorbei A s/n393734 zorbei B s/n400204, DO Na2SO3 s/n12111, Turbidity 50NTU s/n401616

Completed By: [REDACTED]

Signed: [REDACTED]

Multi Parameter Water Meter



airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 23E102257

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
	Display intensity	✓	
Grill Filter	Operation (segments)	✓	
	Condition	✓	
PCB	Seal	✓	
	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	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.02	413975	pH 7.02
2. pH 4.00		pH 4.00	405966	pH 4.00
3. ORP		236.04mV	406331/409855	236.04mV
4. EC		2760uS	420141	2760uS
5. D.O		0%	12111	0%
6. Temp		21.8C	Testo Mini901	21.8C

Calibrated by:



Calibration date:

14-Mar-24

Next calibration due:

11-Sep-24

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 18J104305



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	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.01	413975	pH 7.02
2. pH 4.00		pH 4.00	405966	pH 4.00
3. ORP		234.28mV	411371/409855	234.28mV
4. EC		2760uS	420141	2760uS
5. D.O		0%	12111	0.00%
6. Temp		22.6.0 C	Testo Mini901	22.6.0 C

Calibrated by:



Calibration date:

18-Mar-24

Next calibration due:

15-Sep-24

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 20M101181



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 7.02		413975	pH 7.02
2. pH 4.00		pH 4.00		405966	pH 4.00
3. ORP		236.7mV		406331/409855	236.7mV
4. EC		2760uS		420141	2760uS
5. D.O		100%		407802	100%
6. Temp		21.5		Testomini901	21.5

Calibrated by:



Calibration date: 19/02/2024

Next calibration due: 20/08/2024

